



STIC Search Report

EIC 1700

STIC Database Tracking Number: 130986

**TO: Janis Dote
Location: REM 9C75
Art Unit : 1756
September 8, 2004**

Case Serial Number: 10/649679

**From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov**

Search Notes

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 8/26/04
 Art Unit: 1756 Phone Number 30571-272-1382 Serial Number: 10/649,679
 Mail Box and Bldg/Room Location: REM 921 Results Format Preferred (circle): PAPER DISK E-MAIL
9C 15015

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: 2027 electrophotographic photosensitive member, process, cartridge, and electrophotographic apparatus.

Inventors (please provide full names):

TAKAKAZU TANAKA; ITARU TAKAYA; YUKA ISHIOKA; HARUNOBU OGAKI;
KENICHI KAKU

Earliest Priority Filing Date: 8/30/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

please search compounds in claims 1-5, THE
 COMPOUNDS DIFFER BY THE NUMBER OF -N-
 GROUPS : COMPOUND IN CLAIM 1 HAS 6 -N-
 COMPOUND IN CLAIM 2 HAS 7 -N-
 COMPOUND " " 3 " 8 "
 " " " 4 " 9 "
 " " " 5 " 10 "

NOTE THAT IN CLAIMS 6-10 THE Z GROUPS
 IN THE COMPOUNDS CAN BE DIBENZOFURANYLENE
 OR DIBENZO THIOPHENYLENE

COPY OF CLAIMS 1-10 are attached

STAFF USE ONLY

Type of Search

Vendors and cost where applicable

Searcher: A. Fuller NA Sequence (#) _____ STN _____
 Searcher Phone #: _____ AA Sequence (#) _____ Dialog _____
 Searcher Location: _____ Structure (#) 1 Questel/Orbit _____
 Date Searcher Picked Up: _____ Bibliographic _____ Dr. Link _____
 Date Completed: 8/8/04 Litigation _____ Lexis/Nexis _____
 Searcher Prep & Review Time: 30 Fulltext _____ Sequence Systems _____
 Clerical Prep Time: _____ Patent Family _____ WWW/Internet _____
 Online Time: 28 Other _____ Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:40:52 ON 08 SEP 2004
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STRUCTURE FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-5
DICTIONARY FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLU

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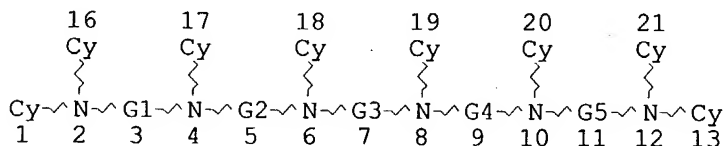
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FILE COVERS 1907 - 8 Sep 2004 VOL 141 ISS 11
FILE LAST UPDATED: 7 Sep 2004 (20040907/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE

L46 STR



Cb^Cb
@14 @15

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VAR G2=CY/14-4 15-6
VAR G3=CY/14-6 15-8
VAR G4=CY/14-8 15-10
VAR G5=CY/14-10 15-12
NODE ATTRIBUTES:
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L47 SCR 1846
L49 38 SEA FILE=REGISTRY SSS FUL L46 AND L47
L52 11 SEA FILE=HCAPLUS ABB=ON L49

=> D L52 1-11 BIB ABS IND HITSTR

L52 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:181887 HCAPLUS
DN 140:225769
TI Electrophotographic photosensitive member, process cartridge and
electrophotographic apparatus
IN Tanaka, Takakazu; Takaya, Itaru; Ishiduka, Yuka; Ogaki, Harunobu; Kaku,
Kenichi
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 42 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1394617	A2	20040303	EP 2003-19487	20030828
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004109999	A2	20040408	JP 2003-297680	20030821
PRAI	JP 2002-253631	A	20020830		
	JP 2003-297680	A	20030821		

OS MARPAT 140:225769

AB An electrophotog. photosensitive member is provided having a support and a

query covers claims 1-5

38 compounds found

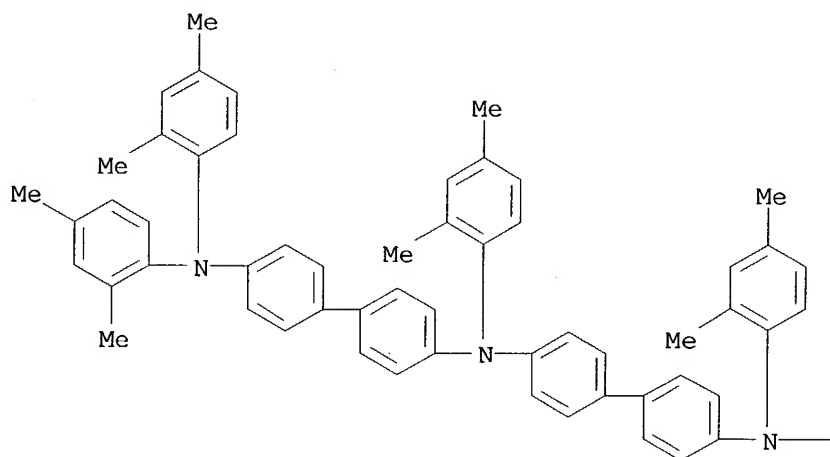
11 CA references from the 38 compounds

applicant

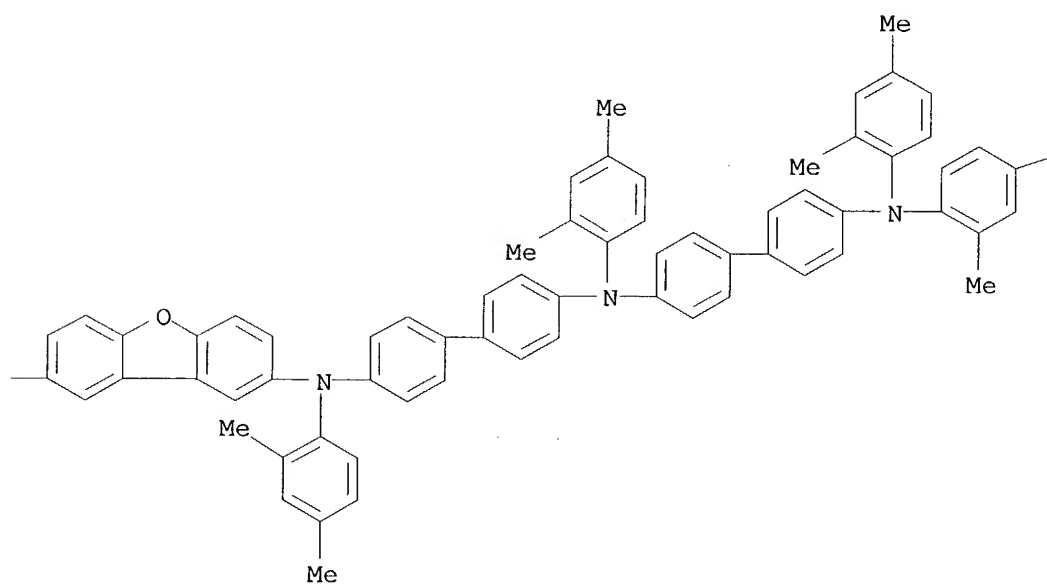
photosensitive layer provided on the support and containing at least one kind of charge-transporting material which has a specific structure with a mol. weight of 1,500-4,000, and is held in a proportion of from 90-100% based on the total weight of the charge-transporting material.

- IC ICM G03G005-06
ICS G03G005-05
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST electrophotog photosensitive member process cartridge app
- IT Electrophotographic apparatus
(electrophotog. photosensitive member, process cartridge and electrophotog. apparatus)
- IT **666175-95-7P 666175-99-1P 666176-00-7P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charge-transporting material; electrophotog. photosensitive member, process cartridge and electrophotog. apparatus containing)
- IT **666175-89-9 666175-90-2 666175-91-3**
666175-92-4 666175-93-5 666175-94-6
666175-96-8 666175-97-9 666175-98-0
666176-01-8 666176-02-9 666176-03-0
666176-04-1 666176-05-2 666176-06-3 666176-07-4
666176-08-5 666176-09-6 666176-10-9
RL: TEM (Technical or engineered material use); USES (Uses)
(charge-transporting material; electrophotog. photosensitive member, process cartridge and electrophotog. apparatus containing)
- IT 92-86-4, 4,4'-Dibromobiphenyl 95-68-1, 2,4-Dimethylphenylamine
106-38-7, 1-Bromo-4-methylbenzene 583-70-0, 1-Bromo-2,4-dimethylbenzene
10016-52-1, 2,8-Dibromodibenzofuran 31574-87-5, 2,8-Dibromodibenzothiophene 105946-82-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of charge-transporting material for electrophotog. photosensitive member)
- IT 19616-28-5P 94026-73-0P 666176-11-0P 666176-12-1P 666176-13-2P
666176-14-3P 666176-15-4P 666176-16-5P 666176-17-6P 666176-18-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of charge-transporting material for electrophotog. photosensitive member)
- IT **666175-95-7P 666175-99-1P 666176-00-7P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charge-transporting material; electrophotog. photosensitive member, process cartridge and electrophotog. apparatus containing)
- RN 666175-95-7 HCAPLUS
- CN 2,8-Dibenzofurandiamine, N,N'-bis[4'-[[4'-[bis(2,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl](2,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl]-N,N'-bis(2,4-dimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

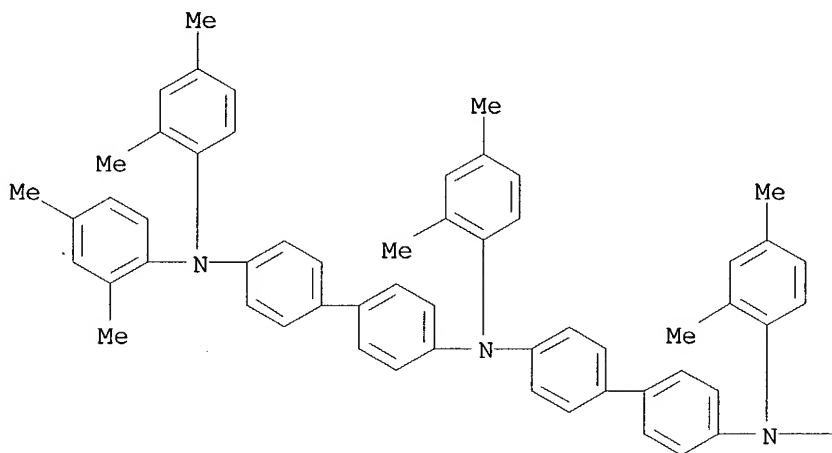


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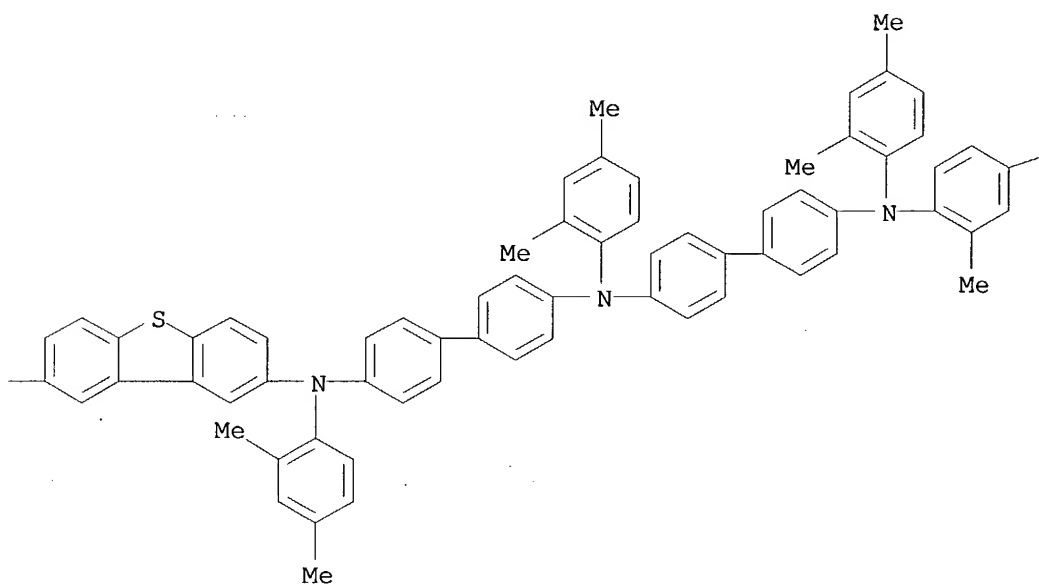
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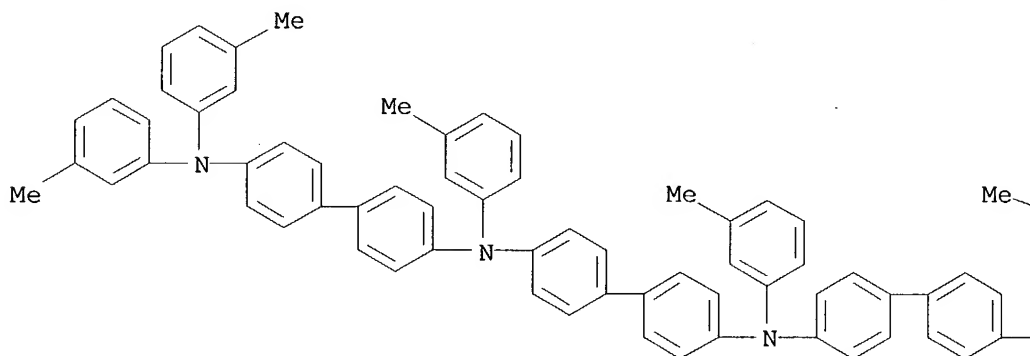


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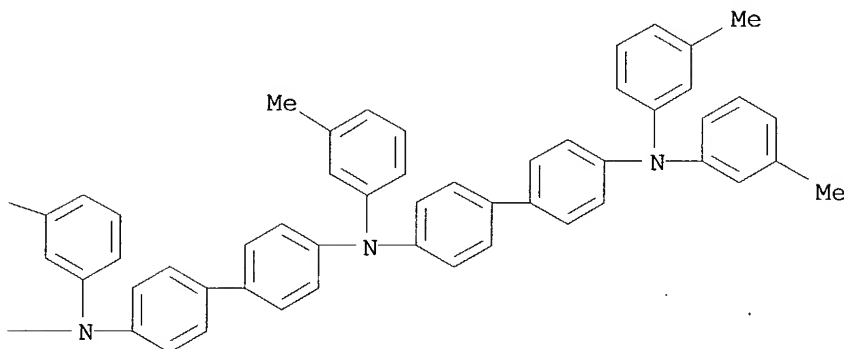
Me

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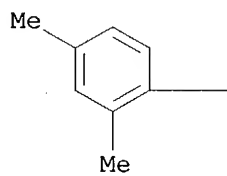
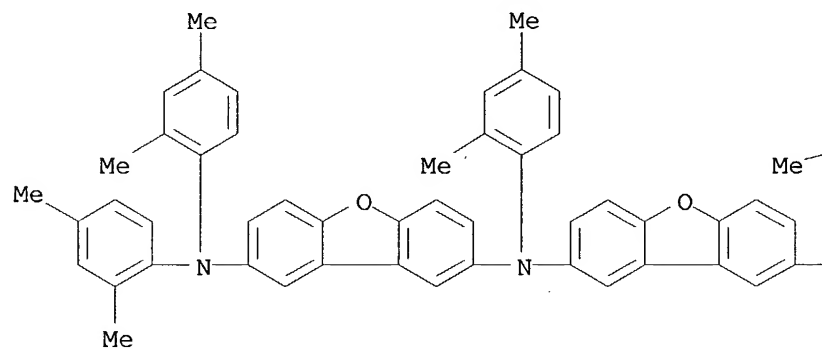
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RL: TEM (Technical or engineered material use); USES (Uses)
 (charge-transporting material; electrophotog. photosensitive member,
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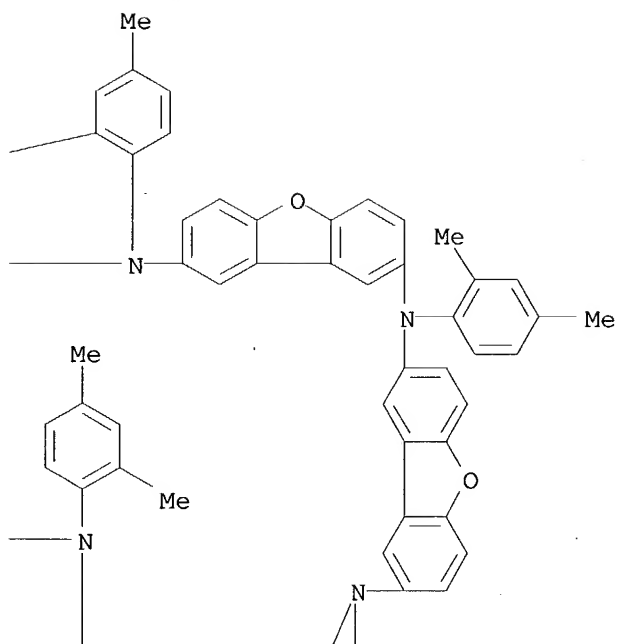
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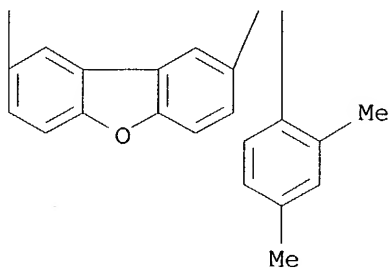
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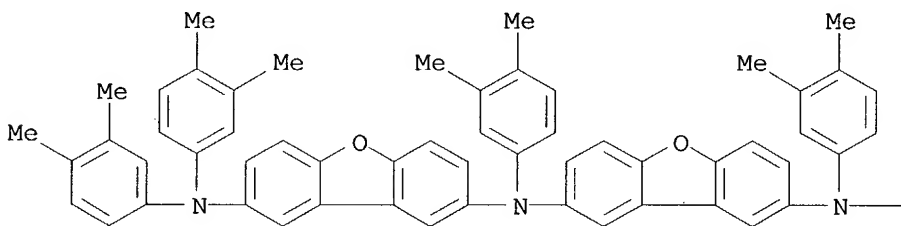


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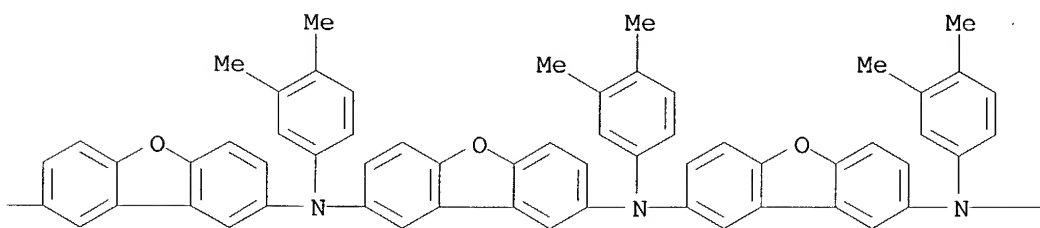


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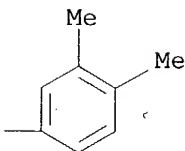
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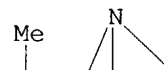
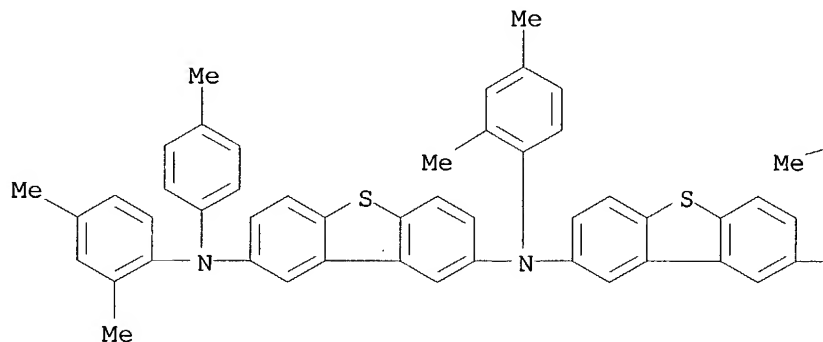
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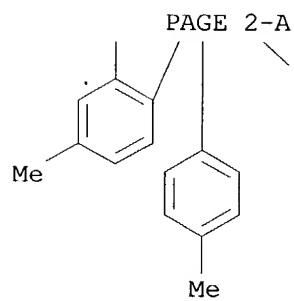
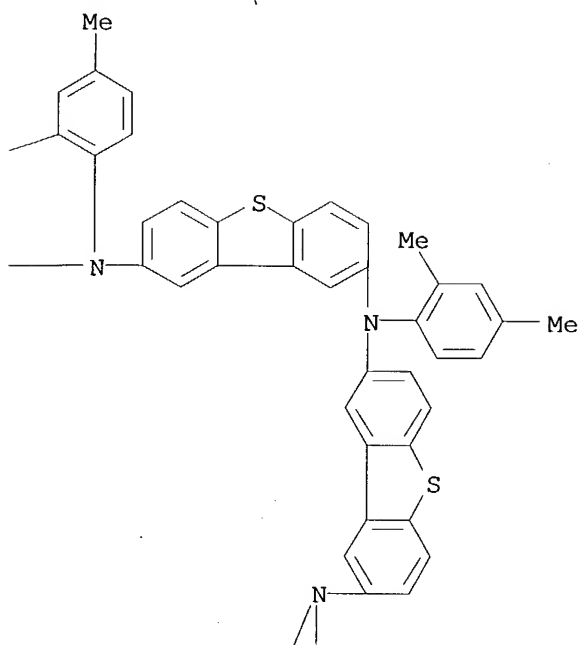
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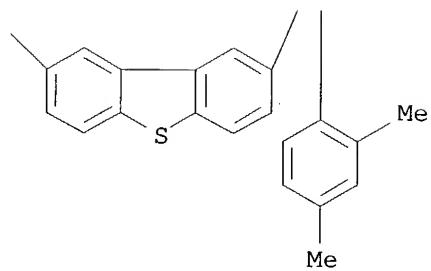
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PAGE 2-B

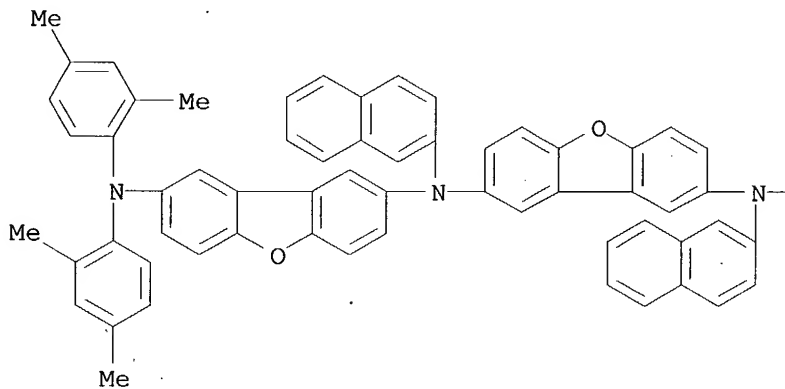


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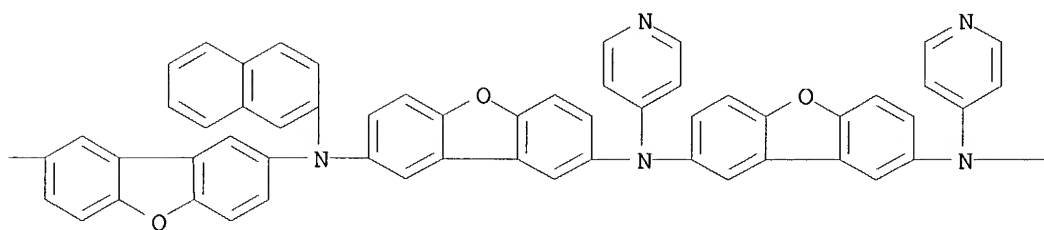
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 2,8-Dibenzofurandiamine, N,N'-bis[8-[[8-[[8-[[8-bis(2,4-dimethylphenyl)amino]-2-dibenzofuranyl]-2-naphthalenylamino]-2-dibenzofuranyl]-2-naphthalenylamino]-2-dibenzofuranyl]-2-naphthalenylamino]-N,N'-di-4-pyridinyl- (9CI) (CA INDEX NAME)

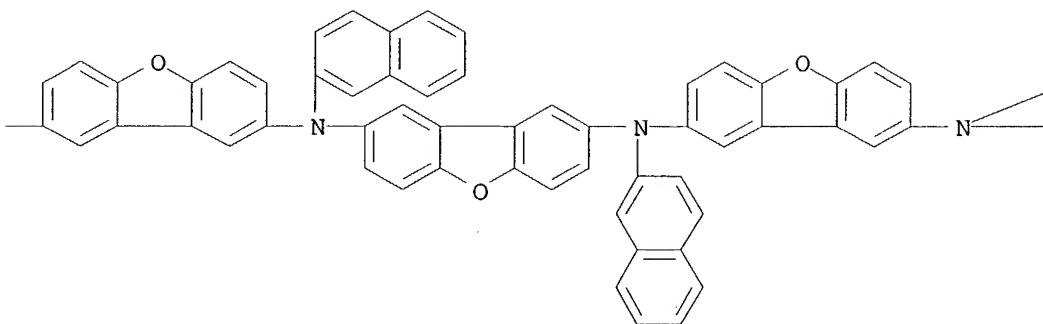
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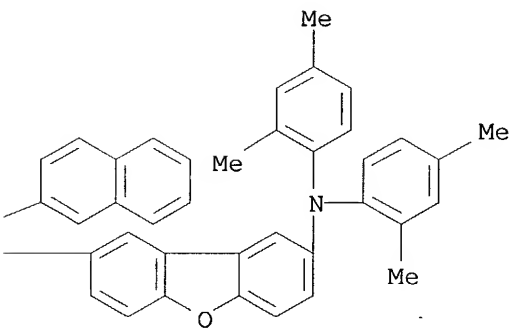
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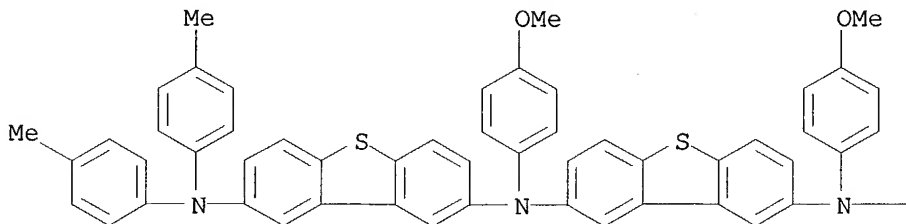
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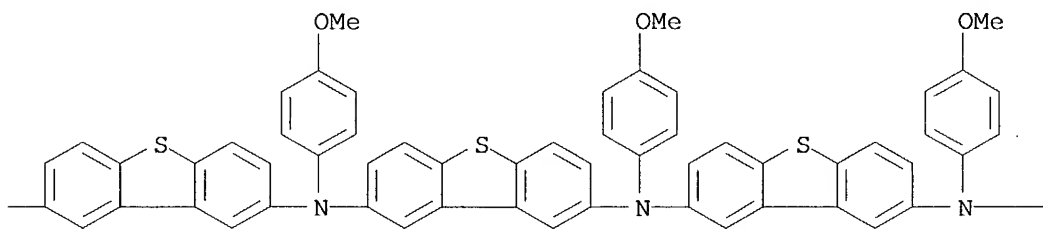
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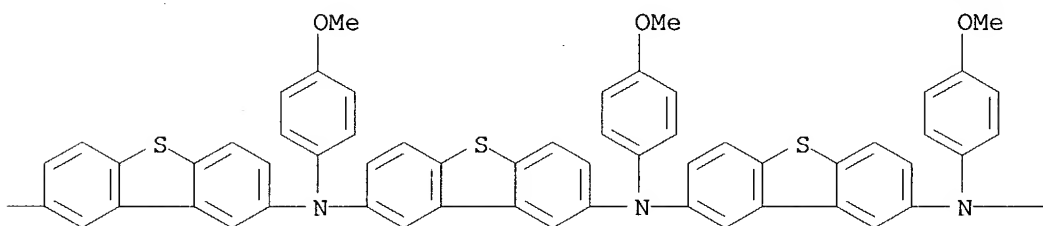
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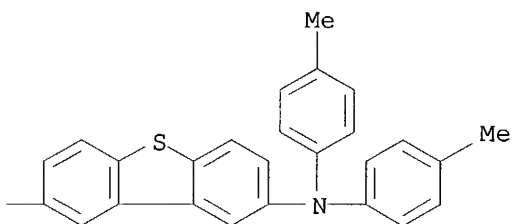
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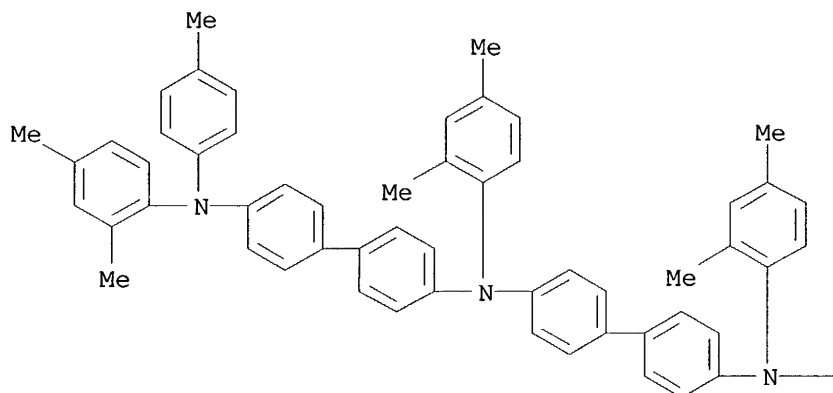


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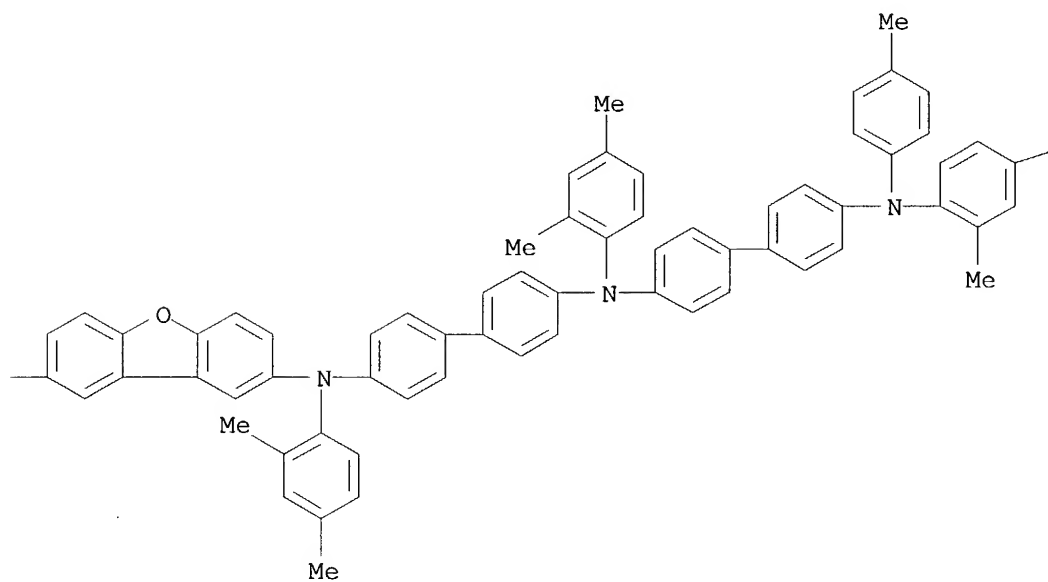


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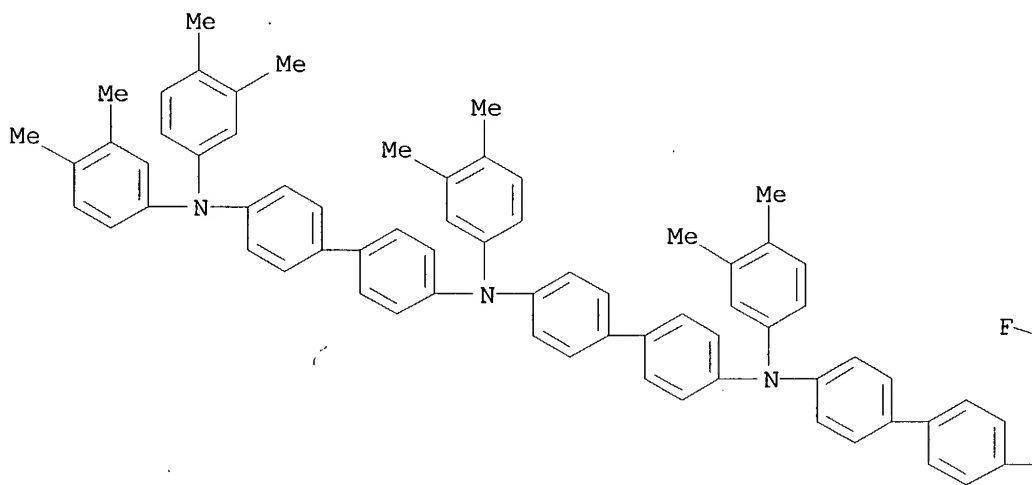
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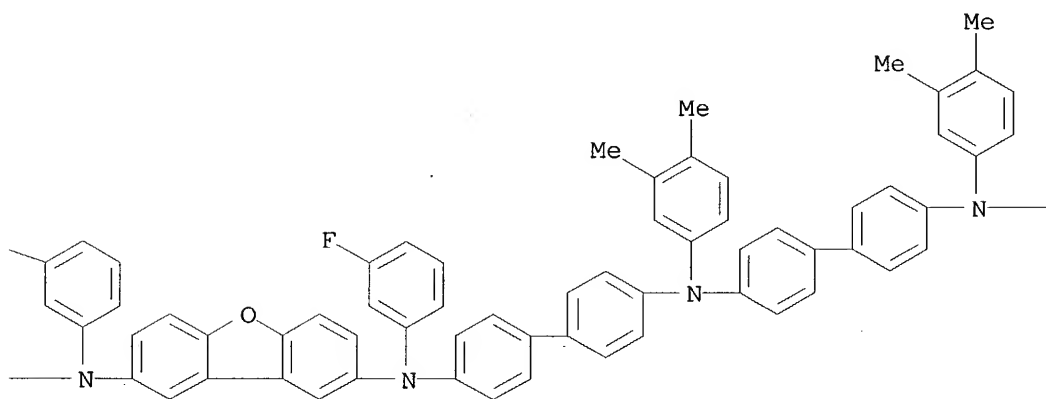
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 2,8-Dibenzofurandiamine, N,N'-bis[4'-[[4'-[[4'-[bis(3,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl](3,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl](3,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl]-N,N'-bis(3-fluorophenyl)- (9CI) (CA INDEX NAME)

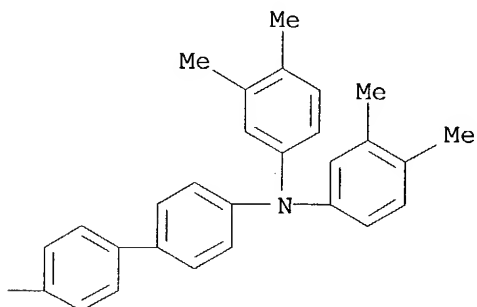
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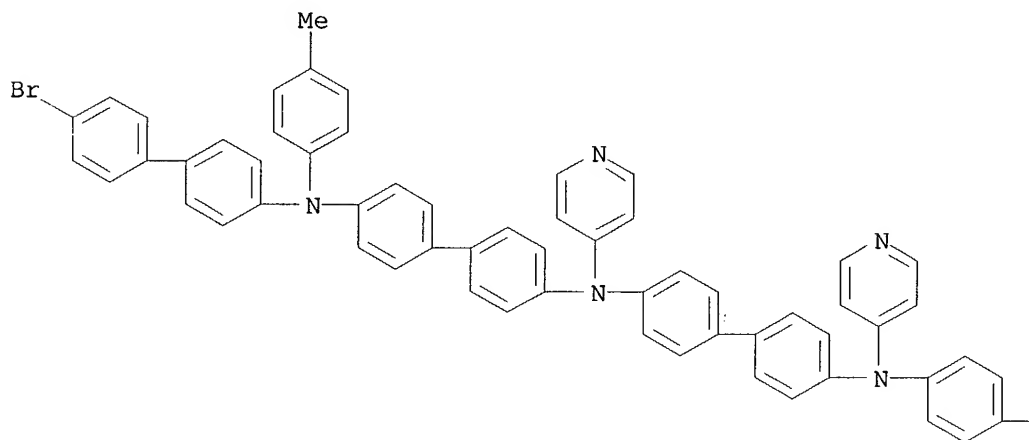
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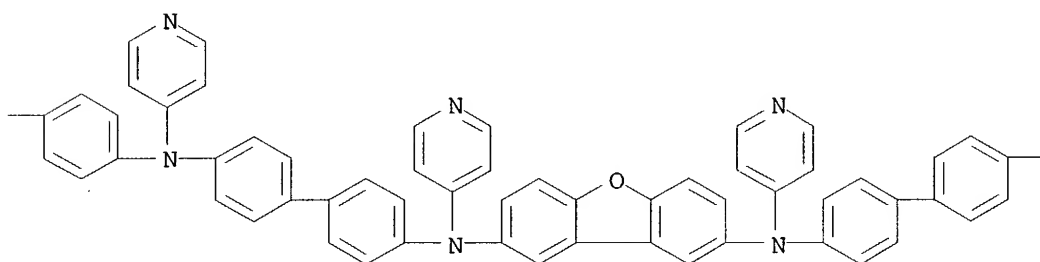
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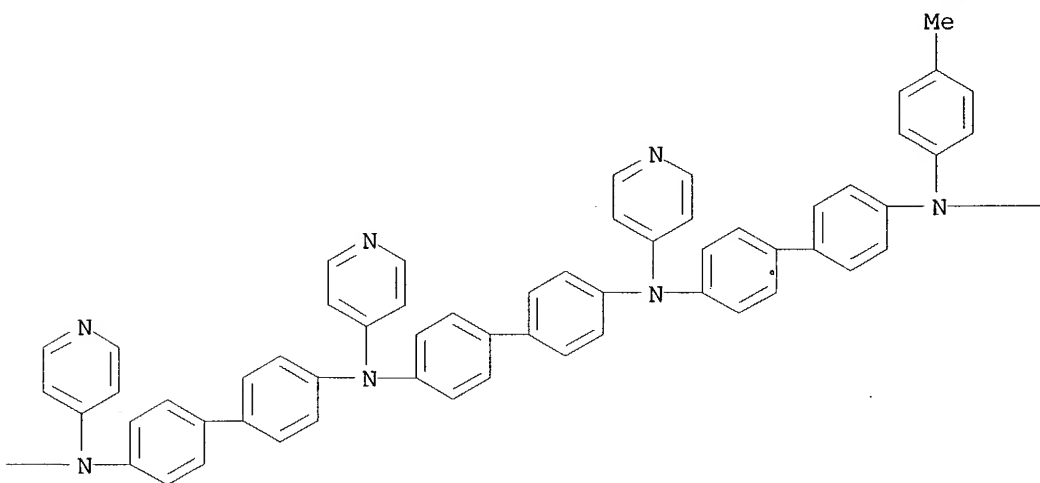
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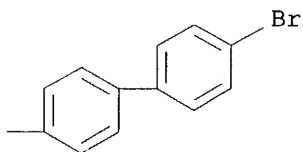
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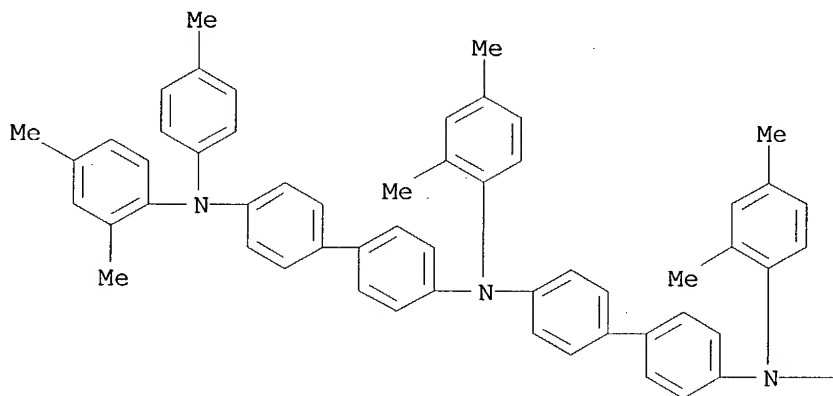


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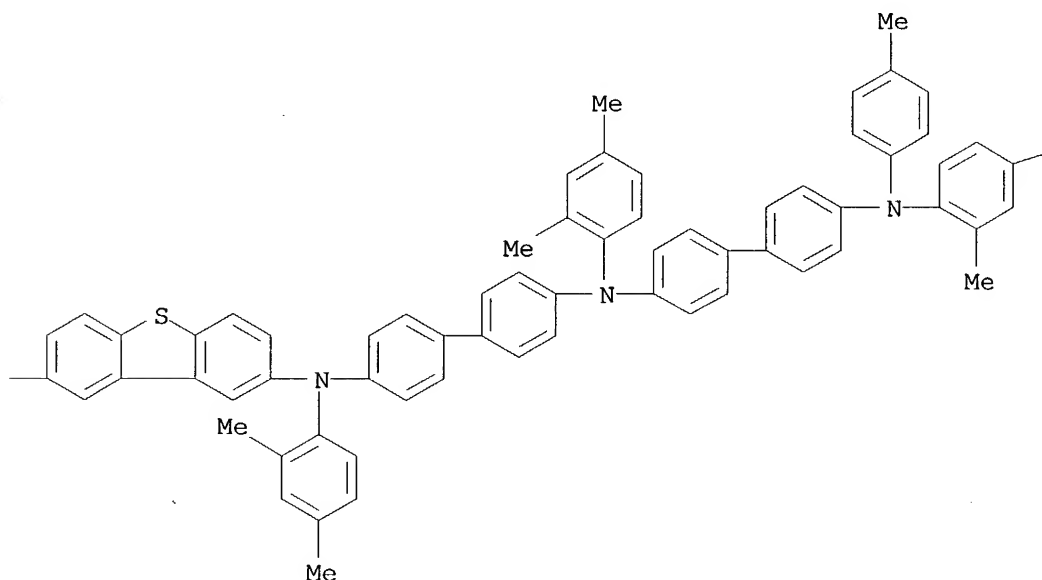


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PAGE 1-A



PAGE 1-B

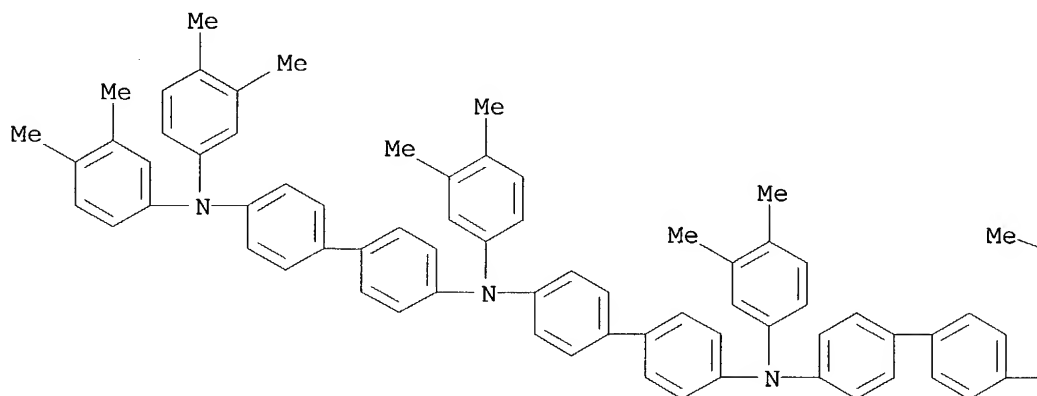


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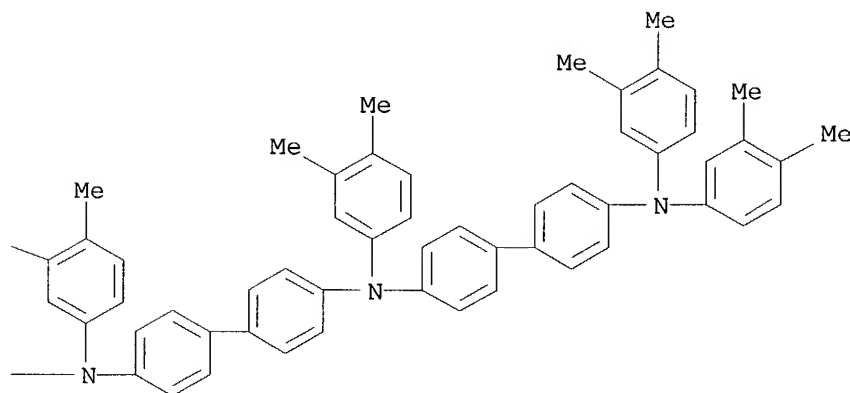
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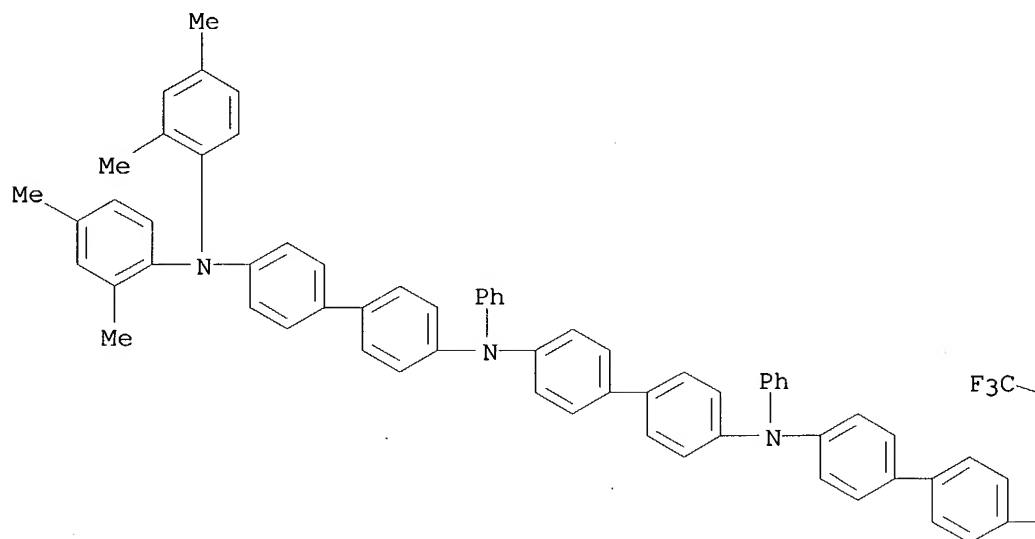
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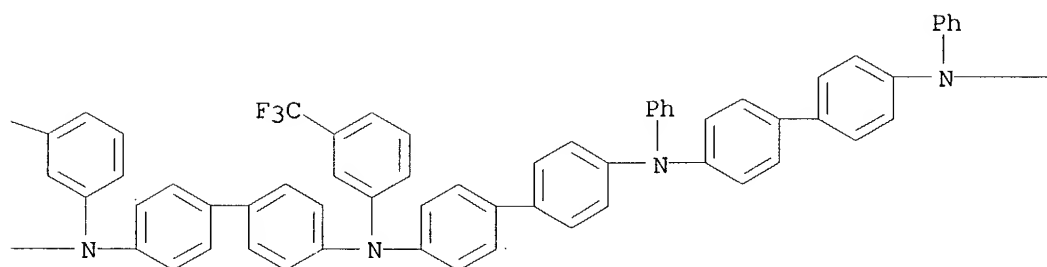
RN 666176-02-9 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4'-[[4'-[[4'-[bis(2,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl]phenylamino][1,1'-biphenyl]-4-yl]phenylamino][1,1'-biphenyl]-4-yl]-N,N'-bis[3-(trifluoromethyl)phenyl]-(9CI) (CA INDEX NAME)

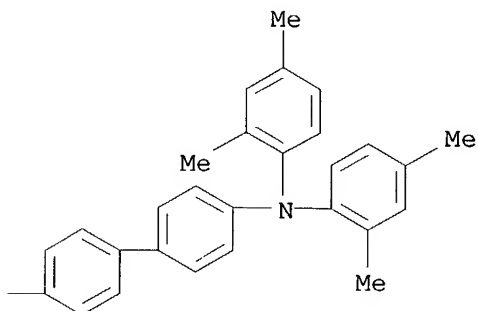
PAGE 1-A



PAGE 1-B



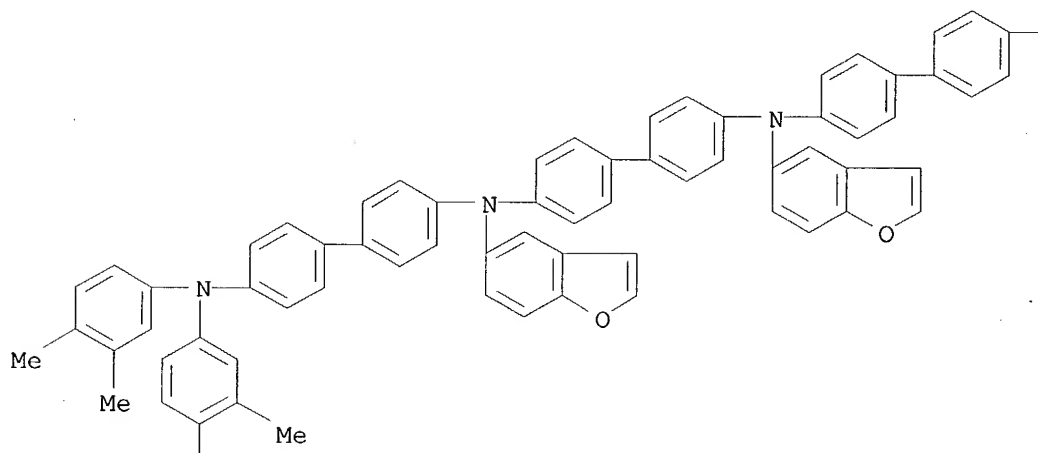
PAGE 1-C



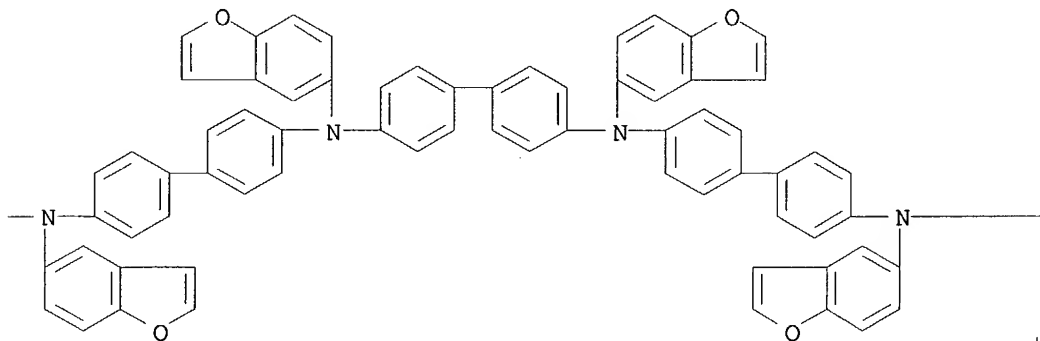
RN 666176-03-0 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(5-benzofuranyl)-N,N'-bis[4'-[5-benzofuranyl[4'-[5-benzofuranyl[4'-[bis(3,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl]amino][1,1'-biphenyl]-4-yl]amino][1,1'-biphenyl]-4-yl]amino]- (9CI) (CA INDEX NAME)

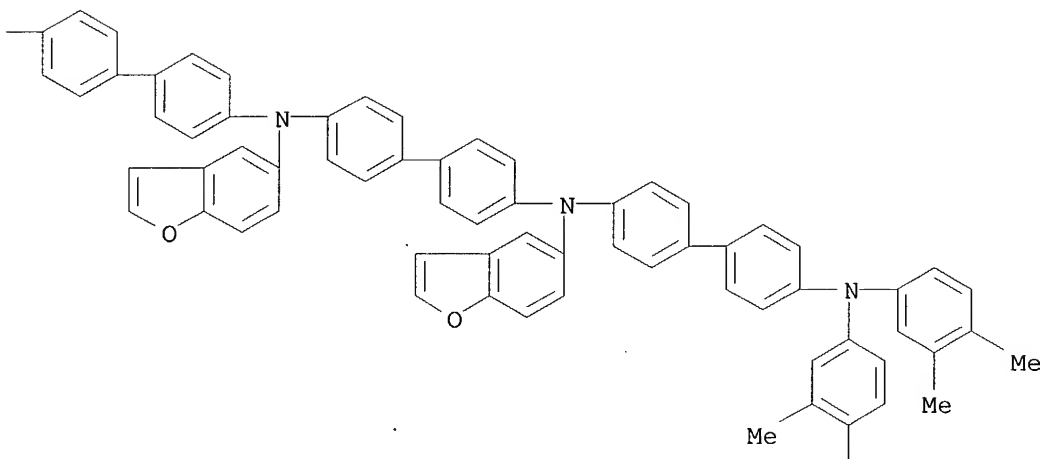
PAGE 1-A



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PAGE 2-A

Me

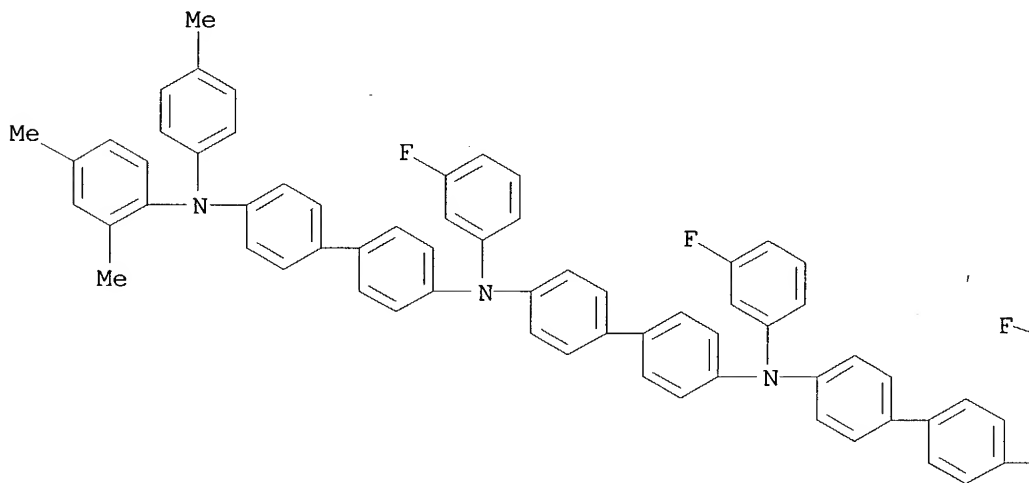
PAGE 2-C

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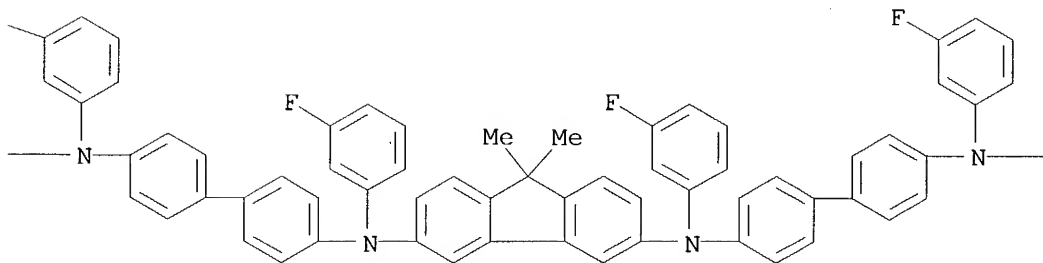
RN 666176-04-1 HCAPLUS

CN 9H-Fluorene-3,6-diamine, N,N'-bis[4'-[[4'-[[4'-[[4'-[(2,4-dimethylphenyl)(4-methylphenyl)amino][1,1'-biphenyl]-4-yl](3-fluorophenyl)amino][1,1'-biphenyl]-4-yl](3-fluorophenyl)amino][1,1'-biphenyl]-4-yl](3-fluorophenyl)amino][1,1'-biphenyl]-4-yl]-N,N'-bis(3-fluorophenyl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

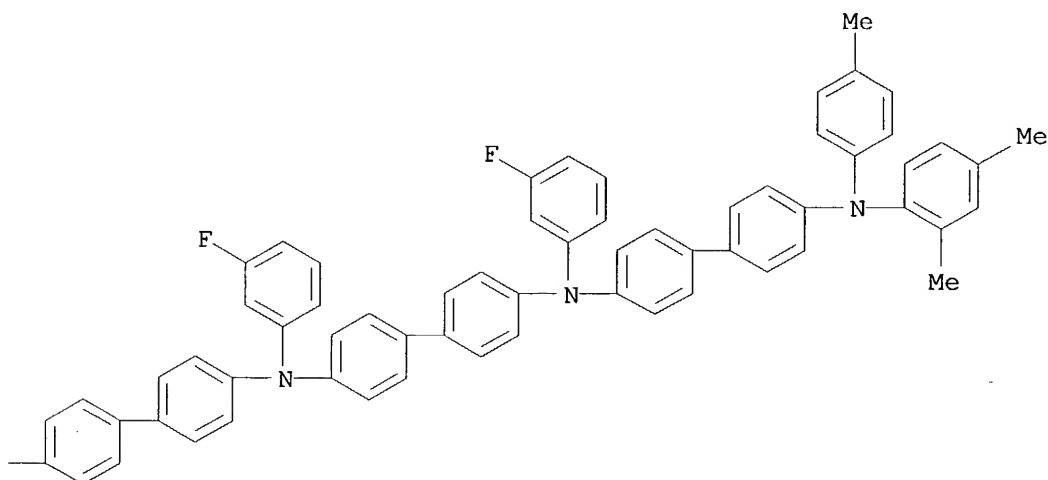
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PAGE 1-B

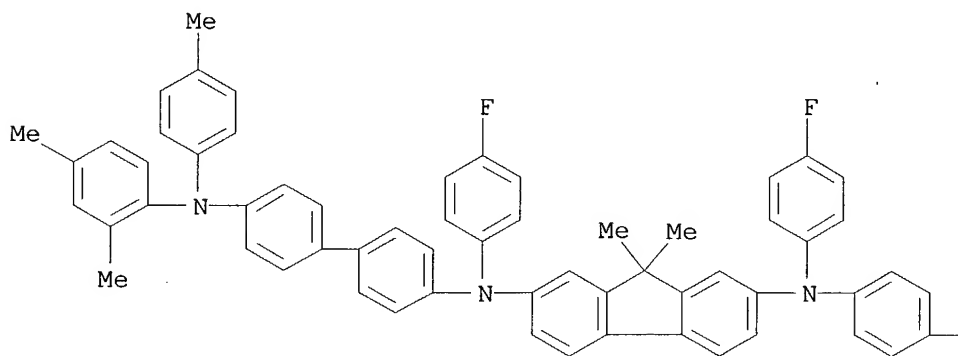


PAGE 1-C

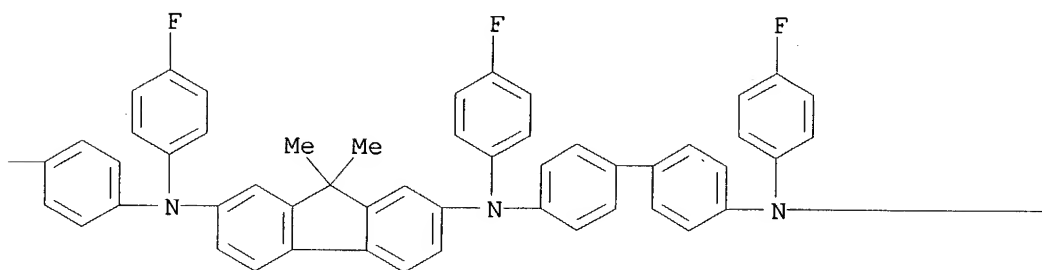


RN 666176-05-2 HCAPLUS
 CN 9H-Fluorene-2,7-diamine, N,N'-[1,1'-biphenyl]-4,4'-diylbis[N'-[4'-[[7-[[4'-[(2,4-dimethylphenyl)(4-methylphenyl)amino][1,1'-biphenyl]-4-yl](4-fluorophenyl)amino]-9,9-dimethyl-9H-fluoren-2-yl](4-fluorophenyl)amino][1,1'-biphenyl]-4-yl]-N,N'-bis(4-fluorophenyl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

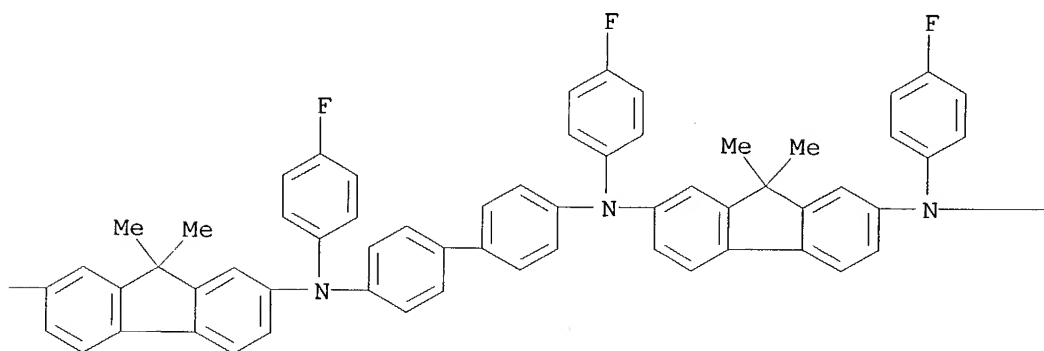
PAGE 1-A



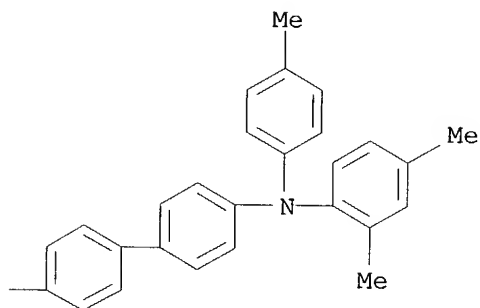
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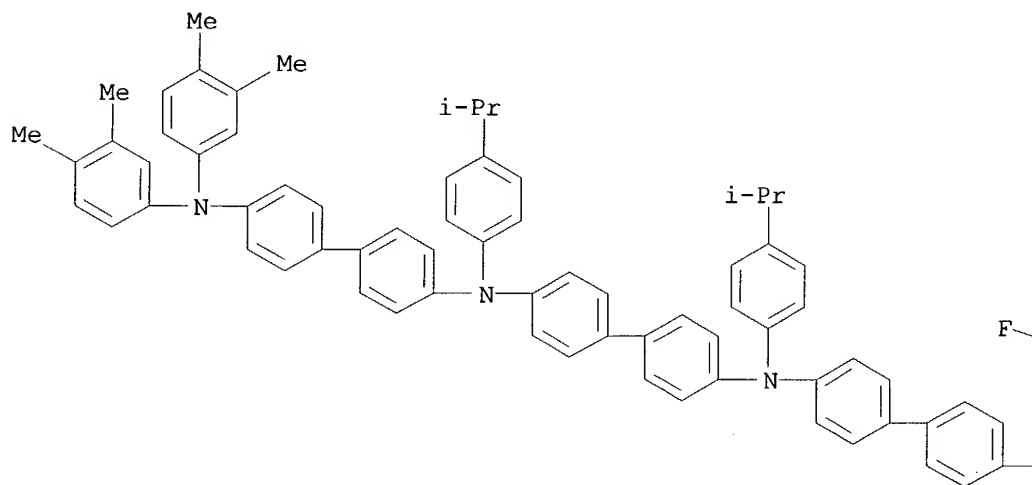


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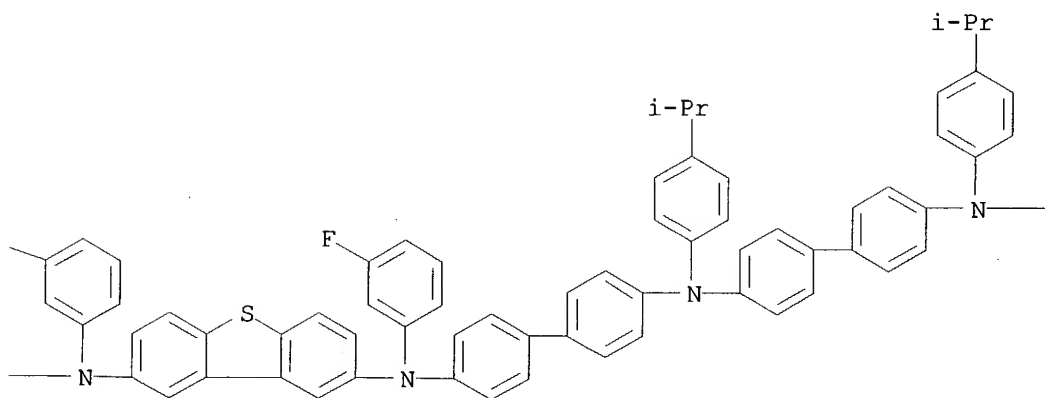


RN 666176-09-6 HCAPLUS
 CN 2,8-Dibenzothiophenediamine, N,N'-bis[4'-[[4'-[[4'-[bis(3,4-dimethylphenyl)amino][1,1'-biphenyl]-4-yl][4-(1-methylethyl)phenyl]amino][1,1'-biphenyl]-4-yl][4-(1-methylethyl)phenyl]amino][1,1'-biphenyl]-4-yl]-N,N'-bis(3-fluorophenyl)-(9CI) (CA INDEX NAME)

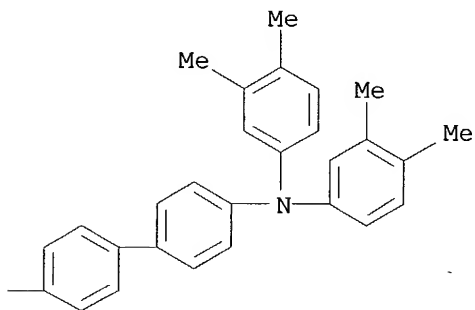
PAGE 1-A



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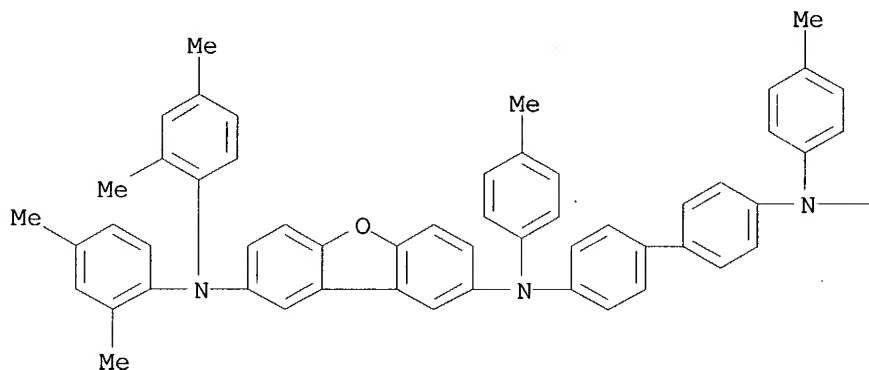


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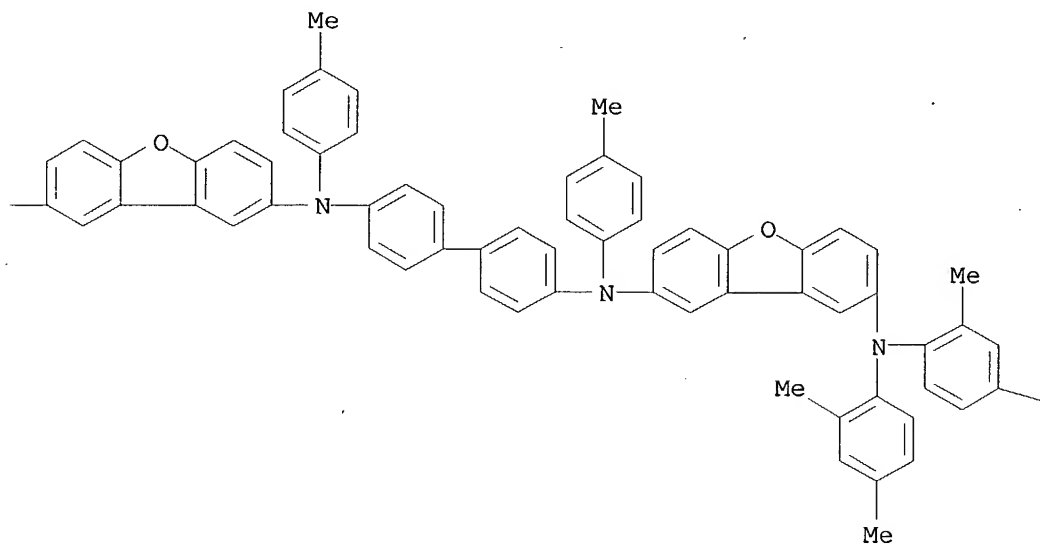


RN 666176-10-9 HCAPLUS
CN 2,8-Dibenzofurandiamine, N,N'-bis[4'-[[8-[bis(2,4-dimethylphenyl)amino]-2-dibenzofuranyl](4-methylphenyl)amino][1,1'-biphenyl]-4-yl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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Me

L52 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:890195 HCAPLUS
DN 139:388387
TI Heat-developable photographic film containing dendrimer
IN Hanyu, Takeshi
PA Konica Minolta Holdings Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PI	JP 2003322925	A2	20031114	JP 2002-131383	20020507
PRAI	JP 2002-131383		20020507		

AB The material has (a) a photosensitive layer containing Ag halide grains, an organic Ag salt, a reducing agent, a dendrimer having π -electron conjugated system linked with O and N, and a binder and (b) a protective layer in succession on a support and (c) a backing layer on its opposite side. It shows improved antistatic properties, antifogging, sensitivity, raw stock and light stability, and Ag tone.

IC ICM G03C001-76
ICS G03C001-498

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST heat developable photog film dendrimer; thiuronium compd hydrazine polyhalomethane photog film; disulfide phthalazine phthalic acid photog film

IT Dendritic polymers
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat-developable photog. film containing dendrimer)

IT Photographic films
(heat-developable; heat-developable photog. film containing dendrimer)

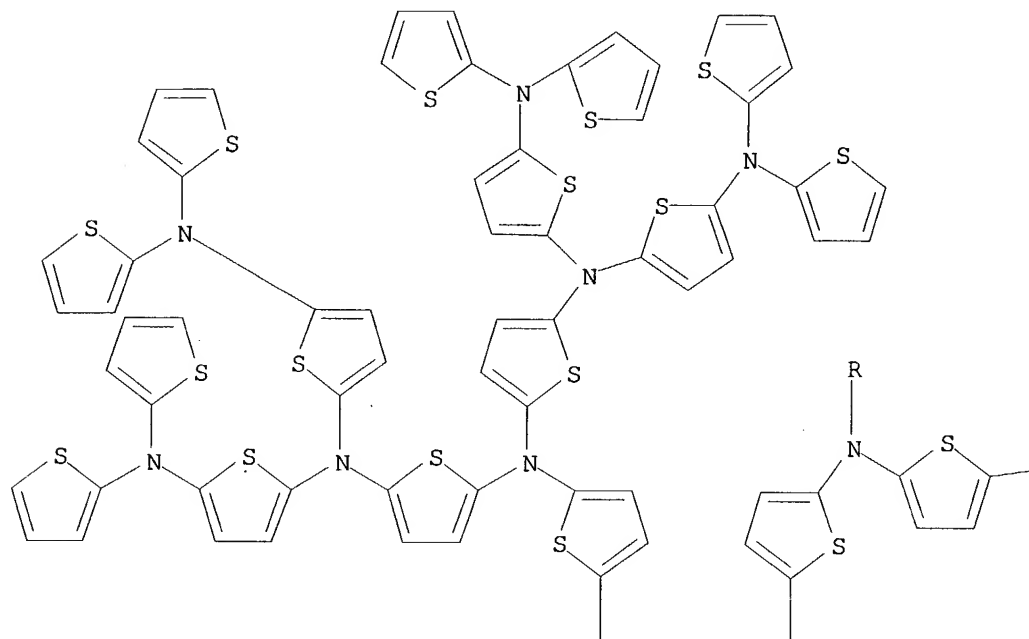
IT 119-80-2 120-78-5 2127-03-9 14236-13-6, Phthalic acid, 4-tert-butyl
59626-33-4 97013-32-6 122882-99-9, 6-Isopropylphthalazine
182127-74-8 200410-35-1 221118-75-8, 6-tert-Butylphthalazine
236420-30-7 352354-08-6 400628-19-5 441772-75-4 441772-76-5
441772-78-7 484691-81-8 484691-82-9 484691-83-0 498578-90-8
518013-29-1 592540-94-8 623904-07-4 623904-08-5 **623904-09-6**
623904-10-9 623904-11-0 **623904-12-1** 623904-13-2
623904-14-3 623904-15-4 623904-16-5
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat-developable photog. film containing dendrimer)

IT **623904-09-6 623904-12-1**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat-developable photog. film containing dendrimer)

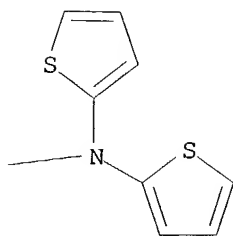
RN 623904-09-6 HCAPLUS

CN 2,5-Thiophenediamine, N,N-bis[5-[bis[5-[bis[5-(di-2-thienylamino)-2-thienyl]amino]-2-thienyl]amino]-2-thienyl]-N',N'-bis[5-[bis[5-(di-2-thienylamino)-2-thienyl]amino]-2-thienyl]- (9CI) (CA INDEX NAME)

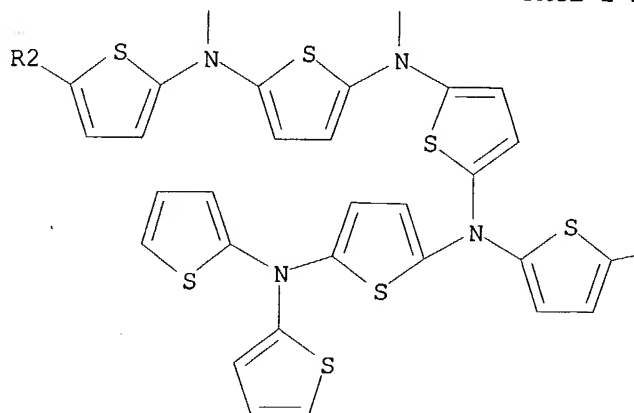
PAGE 1-A



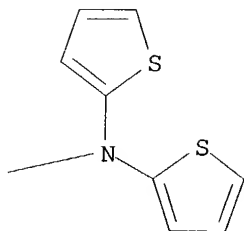
PAGE 1-B



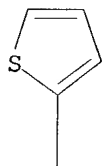
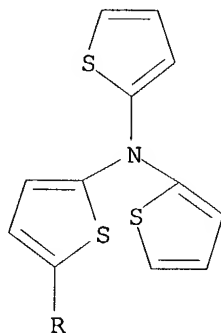
PAGE 2-A



PAGE 2-B

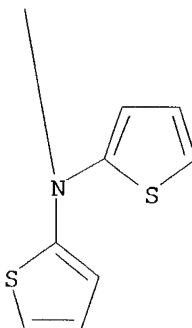


PAGE 3-A



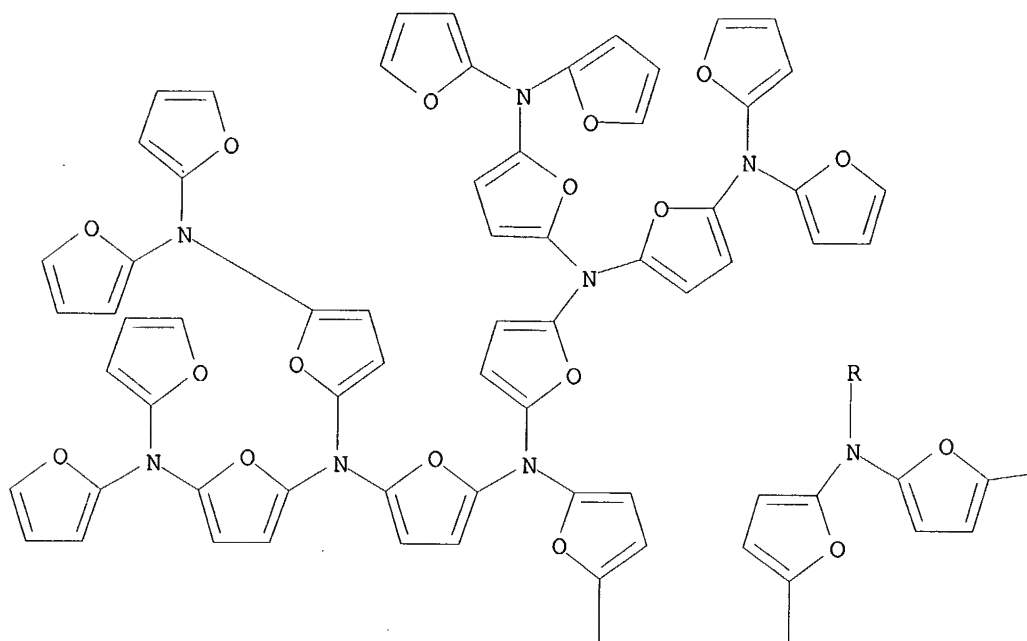
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 5-A

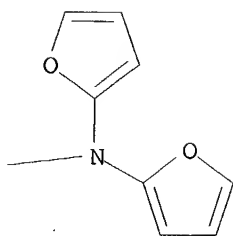


RN 623904-12-1 HCAPLUS
CN 2,5-Furandiamine, N,N-bis[5-[bis[5-[bis[5-(di-2-furanylamino)-2-furanyl]amino]-2-furanyl]amino]-2-furanyl]-N',N'-bis[5-[bis[5-(di-2-furanylamino)-2-furanyl]amino]-2-furanyl]- (9CI) (CA INDEX NAME)

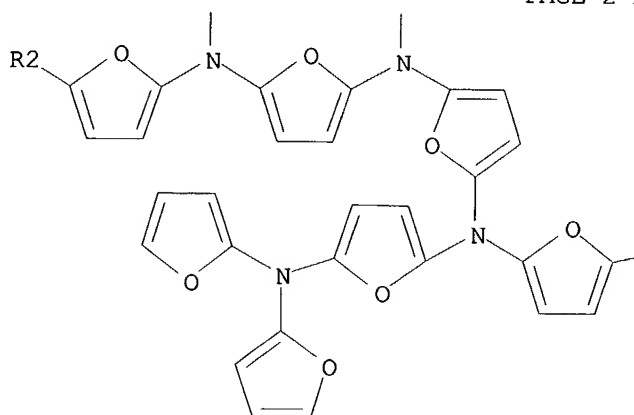
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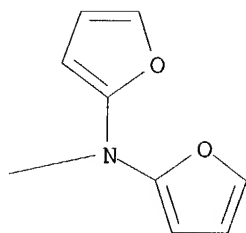
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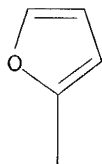
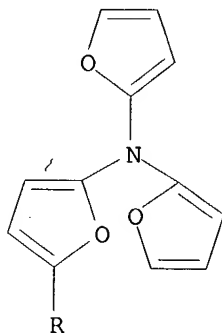
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PAGE 2-B

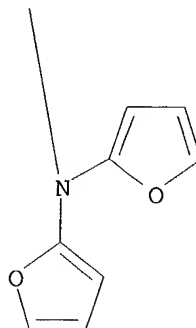


PAGE 3-A



* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

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L52 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:673842 HCAPLUS
DN 139:204845
TI Aromatic oligoamine derivatives, their hole injection-transporting
materials, and their organic EL devices with low driving voltage
IN Kawamura, Hisayuki
PA Idemitsu Kosan Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

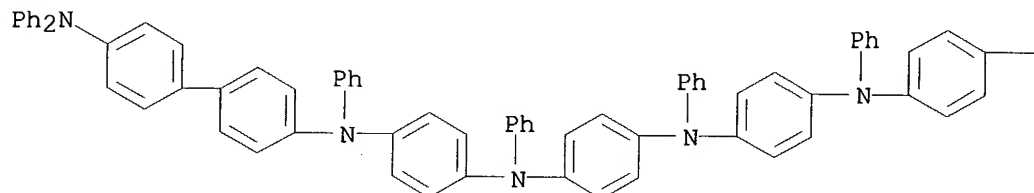
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

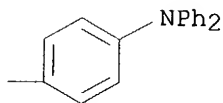
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003238501	A2	20030827	JP 2002-40102	20020218
PRAI	JP 2002-40102		20020218		
AB	The organic EL device contain hole injection-transporting materials of aromatic oligoamine derivs. bearing ≥ 5 N atom. in the mols., containing ≥ 2 of linkage structures for hole transfer, represented by Ar1XAr2 (Ar1, Ar2 = arylene with nucleus C number 6-30, aromatic heterocyclic group nucleus atom number 5-30; X = single bond, arylene with nucleus C number 6-30, aromatic heterocyclic group with nucleus atom number 5-30, methylene, 1-cyclohexyl, fluorenylene, ether, thioether, vinylene, C.tplbond.C; Ar1, Ar2, X may have ≥ 1 substituents), and containing ≥ 2 linkages for lowering ionization potential, represented by -p-phenylene- substituted with Y (Y = Y C1-12 alkyl, C1-12 alkoxy, aryl with nucleus C number 6-30, aromatic heterocyclic group with nucleus atom number 5-30, aryloxy with nucleus C number 6-30; n = 0-4 integer).				
IC	ICM C07C211-54 ICS C09K011-06; H05B033-14; H05B033-22				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties) Section cross-reference(s): 25				
ST	arom oligoamine deriv hole injection transporting material; org electroluminescent device arom amine oligomer				
IT	Electroluminescent devices (aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				
IT	Amines, uses RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aromatic, oligomer; aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				
IT	585540-56-3P 585540-58-5P 585540-60-9P RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				
IT	1100-10-3P, 4,4'-Dinitrotriphenylamine 4117-90-2P, 4,4'-Diaminotriphenylamine 38257-52-2P, 4-Iodotriphenylamine 38257-56-6P 54446-36-5P 167218-38-4P 585540-48-3P 585540-49-4P 585540-50-7P 585540-51-8P 585570-08-7P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				
IT	103-88-8, p-Bromoacetanilide 122-39-4, Diphenylamine, reactions 350-46-9, p-Fluoronitrobenzene 591-50-4, Iodobenzene 603-34-9, Triphenylamine 3001-15-8, 4,4'-Diiodobiphenyl 81090-53-1, 4,4'-Dibromotriphenylamine RL: RCT (Reactant); RACT (Reactant or reagent) (aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				
IT	585540-58-5P 585540-60-9P RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aromatic oligoamine derivs. for hole injection-transporting materials of organic EL devices)				

organic EL devices)
RN 585540-58-5 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-[1,4-phenylenebis[(phenylimino)-4,1-phenylene]]bis[N,N',N'-triphenyl- (9CI) (CA INDEX NAME)

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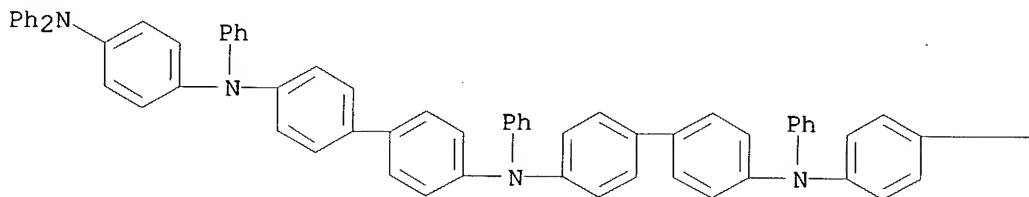


PAGE 1-B

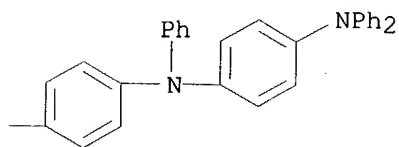


RN 585540-60-9 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4'-[[4-(diphenylamino)phenyl]phenylamino][1,1'-biphenyl]-4-yl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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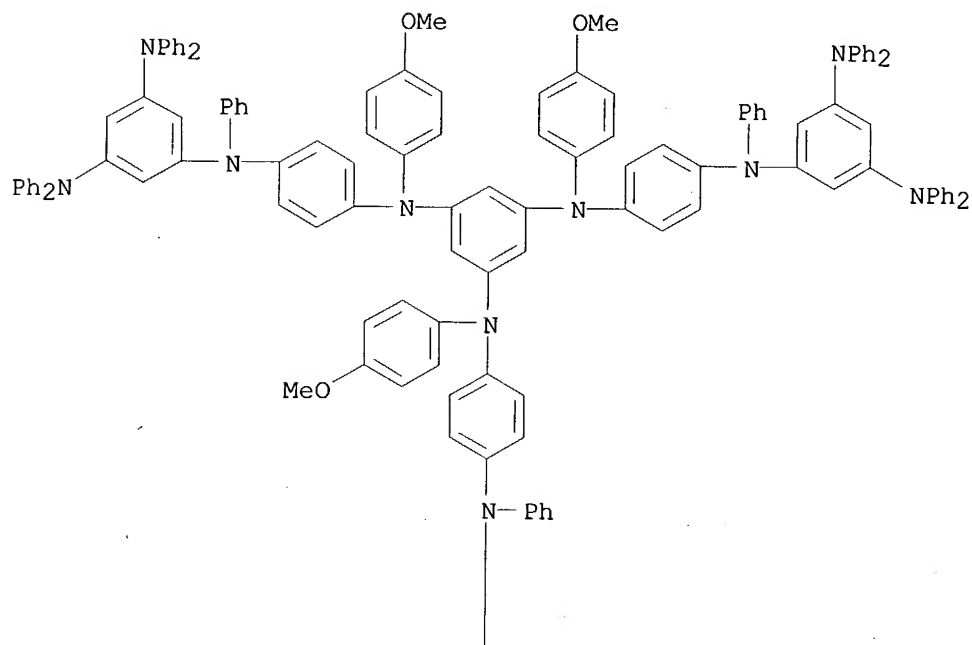


L52 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:483196 HCAPLUS
DN 133:238704
TI Growth and characterization of poly(arylamine) thin films prepared by vapor deposition
AU Szulczewski, G. J.; Selby, T. D.; Kim, K.-Y.; Hassenzahl, J. D.;

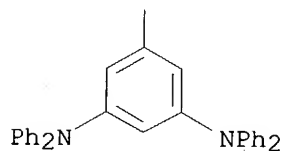
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

Blackstock, S. C.
 CS Department of Chemistry, The University of Alabama, Tuscaloosa, AL, 35487, USA
 SO Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films (2000), 18(4, Pt. 2), 1875-1880
 CODEN: JVTAD6; ISSN: 0734-2101
 PB American Institute of Physics
 DT Journal
 LA English
 AB Thin films of new organic redox-active arylamine dendrimers have been examined. The thermal properties of the bulk samples have been measured by differential scanning calorimetry and thermogravimetric anal. In general, these compds. exhibit amorphous phases with glass transition temps. near 100 °C and are thermally stable up to 400°C. Thin films (1-100 nm) of these large (1300-2200 amu) mols. were prepared by vapor deposition onto Au and Si(100) surfaces. NMR anal. of redissolved films proved that vapor deposition occurs without mol. decomposition. Ex situ surface characterization was performed by reflection-absorption IR spectroscopy, XPS, spectroscopic ellipsometry, and atomic-force microscopy to document the chemical integrity and morphol. of the films. The analyses show that the vapor deposition produces molecularly smooth dendrimer films at high surface coverages, while at low surface coverage, film growth and morphol. depend greatly on the chemical nature of the surface.
 CC 37-5 (Plastics Manufacture and Processing)
 ST dendritic polyamine film formation thermal property; polyarylamine dendrimer film deposition thermal property
 IT Polyamines
 Polyamines
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (dendrimers; growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 IT Glass transition temperature
 Thermal stability
 Vapor deposition process
 (growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 IT Dendritic polymers
 Dendritic polymers
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (polyamines; growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 IT Polymer morphology
 (surface; growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 IT 186965-98-0 293726-19-9 **293726-20-2**
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 IT **293726-20-2**
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (growth and thermal properties of dendritic poly(arylamine) thin films prepared by vapor deposition)
 RN 293726-20-2 HCAPLUS
 CN 1,3,5-Benzenetriamine, N,N',N''-tris[4-[[3,5-bis(diphenylamino)phenyl]phenylamino]phenyl]-N,N',N''-tris(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

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PAGE 2-A



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:213600 HCAPLUS
DN 131:19388
TI The synthesis of triarylamine macromolecules by palladium-catalyzed
amination of aryl halides
AU Hartwig, John F.; Goodson, Felix E.; Louie, Janis; Hauck, Sheila
CS Department of Chemistry, New Haven, CT, 06520-8107; USA
SO Polymeric Materials Science and Engineering (1999), 80, 41-42
CODEN: PMSE DG; ISSN: 0743-0515
PB American Chemical Society
DT Journal
LA English
AB Phosphite-free polymer was prepared by using tri-tert-butylphosphine or
tris(trimethoxymethylphenyl)phosphine. Careful selection of reaction
conditions and protective groups led to the formation of clean dendritic

and linear oligomers containing only triarylamine linkages.

CC 35-7 (Chemistry of Synthetic High Polymers)

ST triarylamine core dendritic polyaniline synthesis; palladium catalyst

IT linear polymeta aniline synthesis

Polyamines

Polyamines

RL: SPN (Synthetic preparation); PREP (Preparation)

(dendrimers, aromatic; the synthesis of triarylamine macromols. by

palladium-catalyzed amination of aryl halides)

IT Amination catalysts

(phosphine derivs.; the synthesis of triarylamine macromols. by

palladium-catalyzed amination of aryl halides)

IT Dendritic polymers

Dendritic polymers

RL: SPN (Synthetic preparation); PREP (Preparation)

(polyamines, aromatic; the synthesis of triarylamine macromols. by

palladium-catalyzed amination of aryl halides)

IT 198026-07-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(dendrimer; the synthesis of triarylamine macromols. by

palladium-catalyzed amination of aryl halides)

IT 6163-58-2, Tris(o-tolyl)phosphine 6962-89-6 13175-76-3,

(o-Methoxymethylphenyl)diphenylphosphine 13716-12-6,

Tris(tert-butyl)phosphine 69861-71-8, Bis[tris(o-

tolyl)phosphine]palladium 217201-91-7 223250-50-8 223250-60-0

RL: CAT (Catalyst use); USES (Uses)

(the synthesis of triarylamine macromols. by palladium-catalyzed

amination of aryl halides)

IT 4316-58-9, Tris(4-bromophenyl)amine 135505-64-5 198026-04-9

213816-32-1 226092-86-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(the synthesis of triarylamine macromols. by palladium-catalyzed

amination of aryl halides)

IT 198026-05-0P 198026-06-1P 213816-34-3P 213816-36-5P 213816-37-6P

213816-38-7P **213816-39-8P 213816-40-1P** 226092-85-9P

226092-87-1P 226092-88-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(the synthesis of triarylamine macromols. by palladium-catalyzed

amination of aryl halides)

IT 213816-42-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(the synthesis of triarylamine macromols. by palladium-catalyzed

amination of aryl halides)

IT **213816-39-8P 213816-40-1P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(the synthesis of triarylamine macromols. by palladium-catalyzed

amination of aryl halides)

RN 213816-39-8 HCAPLUS

CN 1,3-Benzenediamine, N-[3-[[3-[[3-[[3-[[1,1-dimethylethyl)dimethylsilyl]ox

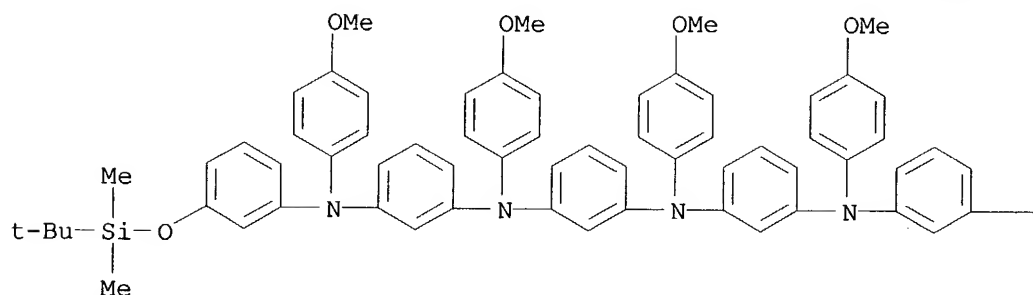
y]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl](4-

methoxyphenyl)amino]phenyl]-N,N'-bis(4-methoxyphenyl)-N'-[3-[(4-

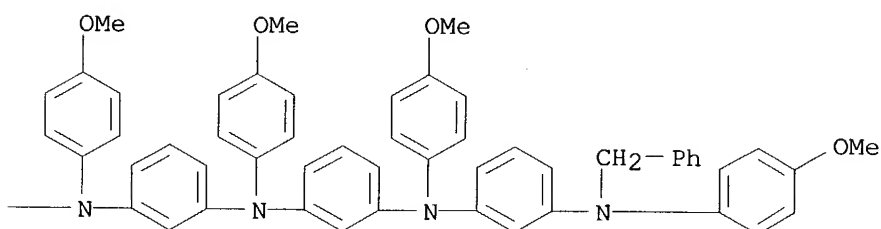
methoxyphenyl)[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)(phenylmethyl)amin

o]phenyl]amino]phenyl]amino]phenyl]- (9CI) (CA INDEX NAME)

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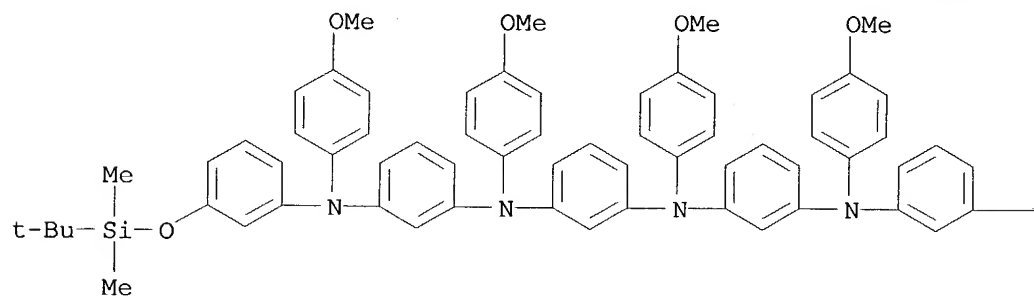


PAGE 1-B

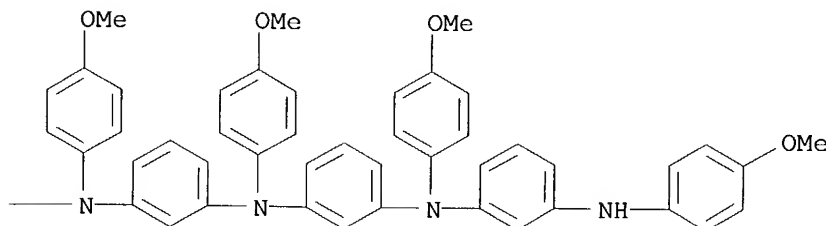


RN 213816-40-1 HCAPLUS
 CN 1,3-Benzenediamine, N-[3-[[3-[[3-[[3-[[1,1-dimethylethyl)dimethylsilyl]oxy]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl]-N,N'-bis(4-methoxyphenyl)-N'-[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)amino]phenyl]amino]phenyl]amino]phenyl]- (9CI) (CA INDEX NAME)

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PAGE 1-B



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:706385 HCAPLUS
DN 130:67012
TI Preparation of a Redox-Gradient Dendrimer. Polyamines Designed for One-Way
Electron Transfer and Charge Capture
AU Selby, Trent D.; Blackstock, Silas C.
CS Department of Chemistry, The University of Alabama, Tuscaloosa, AL,
35487-0336, USA
SO Journal of the American Chemical Society (1998), 120(46), 12155-12156
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A redox-active polyarylamine dendrimer (I) which possesses a radial redox-gradient was prepared via sequential Ullmann reactions and the electron transport mechanisms were studied. The dendrimer has a benzene core, interior p-phenylenediamine (PD) groups, perimeter diarylamino groups, and nominal C3 symmetry with nine distinct, meta-linked redox functions. Electrochem. oxidation of dendrimer I by cyclic voltammetry (CV) reveals multiple oxidns.; the first three oxidation peaks are chemical reversible and are assigned as one-, two- and three-electron processes with oxidation potential $E1^{\circ}$ 0.48, $E2^{\circ}$.apprx. $E3^{\circ}$ 0.63, and $E4^{\circ}$.apprx. $E5^{\circ}$.apprx. $E6^{\circ}$ 0.88 V vs. SCE in CH_2Cl_2 . The fourth, fifth, and sixth oxidns. of I at 0.88 V are assigned as electron loss from remote peripheral AA groups. Chemical oxidation of I with NOPF6 provides isolable 1+, 12+, and 13+ PF6 salts in high yield. The redox gradient in dendrimer I is about 0.2 V and this potential gradient should provide a conduit for electron-hole transfer from surface to core and simultaneously impart a barrier to the reverse process to render a degree of electronic protection against the reverse charge transport. The intermol. PD neutral/cation electron-exchange rate for dendrimer I is slowed by a factor of 103-104 relative to model (unprotected) PD neutral/cation couples.

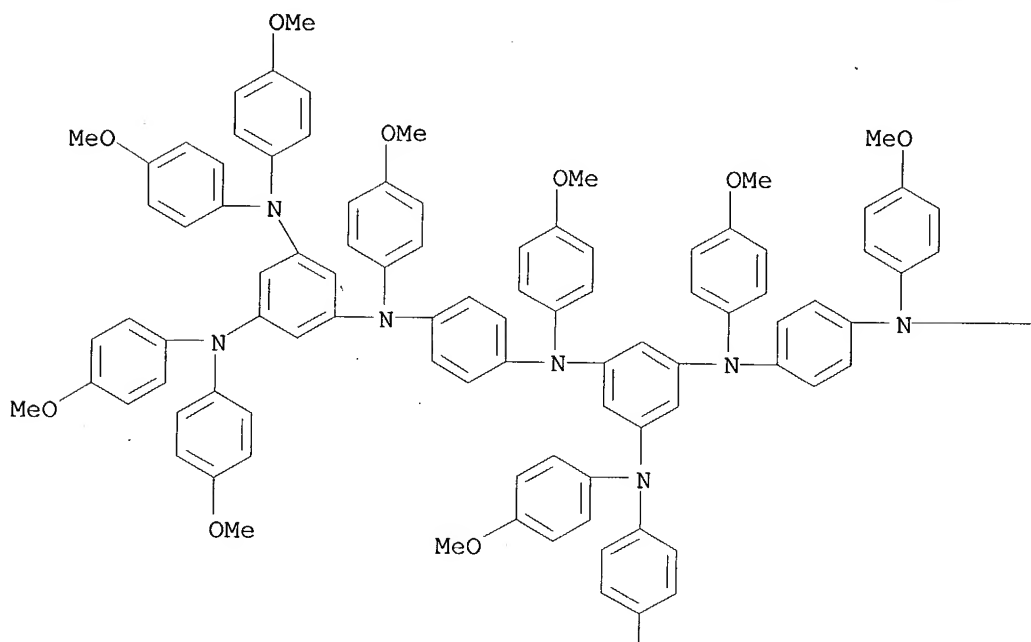
CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35, 76

ST polyarylamine dendrimer redox gradient electron transfer; oxidn potential

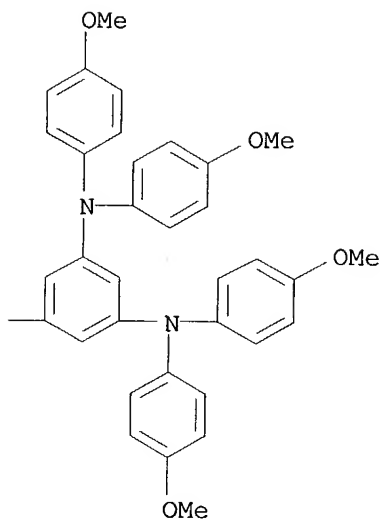
- redox gradient electron hole transfer dendrimer
- IT Polyamines
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (anisylamino-phenylenediamine dendrimers; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT Polymer chains
 (dendrimer redox gradient; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT Redox reaction
 (electrochem., redox gradient; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT Electron transfer
 (intramol.; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT Dendritic polymers
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (polyamine; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT Conducting polymers
 Hole (electron)
 Oxidation
 Oxidation, electrochemical
 Oxidation potential
 Reorganization energy
 Ullmann reaction
 (preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT 71-43-2, Benzene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (core; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT **217804-94-9P**, 1,3,5-Tris(N-4-(N'-3,5-bis(N'',N''-di-4-anisylamino)phenyl-N'-4-anisylamino)phenyl-N-4-anisylamino)benzene
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
 (dendrimer; preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT 696-62-8, p-Iodoanisole 16921-91-8, Nitrosonium hexafluorophosphate 104216-56-0, 1,3,5-Tris(N-4-anisylamino)benzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT 173072-40-7P, N,N,N'-Tetra-4-anisyl-1,4-phenylenediamine 217804-92-7P, 1,3-Bis(N,N-di-4-anisylamino)-5-(N'-anisylamino)benzene 217804-93-8P, 1,3-Bis(N,N-di-4-anisylamino)-5-(N'-4-anisyl-N'-4-iodophenylamino)benzene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and one way electron transfer mechanism of redox-gradient polyamine dendrimers with anisylamino and phenylenediamine groups)
- IT 186965-98-0P **217804-96-1P** 217804-98-3P 217805-01-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and one way electron transfer mechanism of redox-gradient
 polyamine dendrimers with anisylamino and phenylenediamine groups)
 IT 217804-94-9P, 1,3,5-Tris(N-4-(N'-3,5-bis(N'',N''-di-4-
 anisylamino)phenyl-N'-4-anisylamino)phenyl-N-4-anisylamino)benzene
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT
 (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC
 (Process); RACT (Reactant or reagent)
 (dendrimer; preparation and one way electron transfer mechanism of
 redox-gradient polyamine dendrimers with anisylamino and
 phenylenediamine groups)
 RN 217804-94-9 HCAPLUS
 CN 1,3,5-Benzenetriamine, N,N',N''-tris[4-[[3,5-bis[bis(4-
 methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl]-N,N',N''-tris(4-
 methoxyphenyl)- (9CI) (CA INDEX NAME)

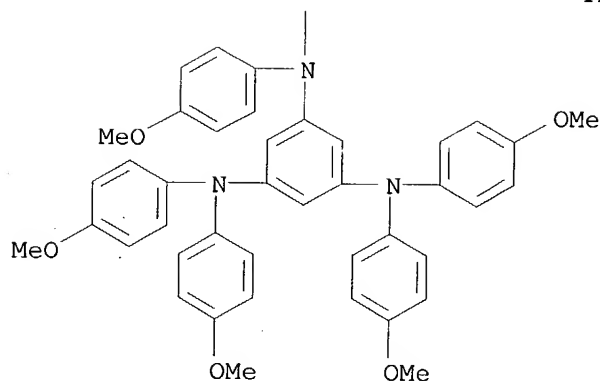
PAGE 1-A



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IT 217804-96-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and one way electron transfer mechanism of redox-gradient
polyamine dendrimers with anisylamino and phenylenediamine groups)

RN 217804-96-1 HCAPLUS

CN 1,3,5-Benzenetriamine, N,N',N''-tris[4-[[3,5-bis[bis(4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl]-N,N',N''-tris(4-methoxyphenyl)-, radical ion(1+), hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

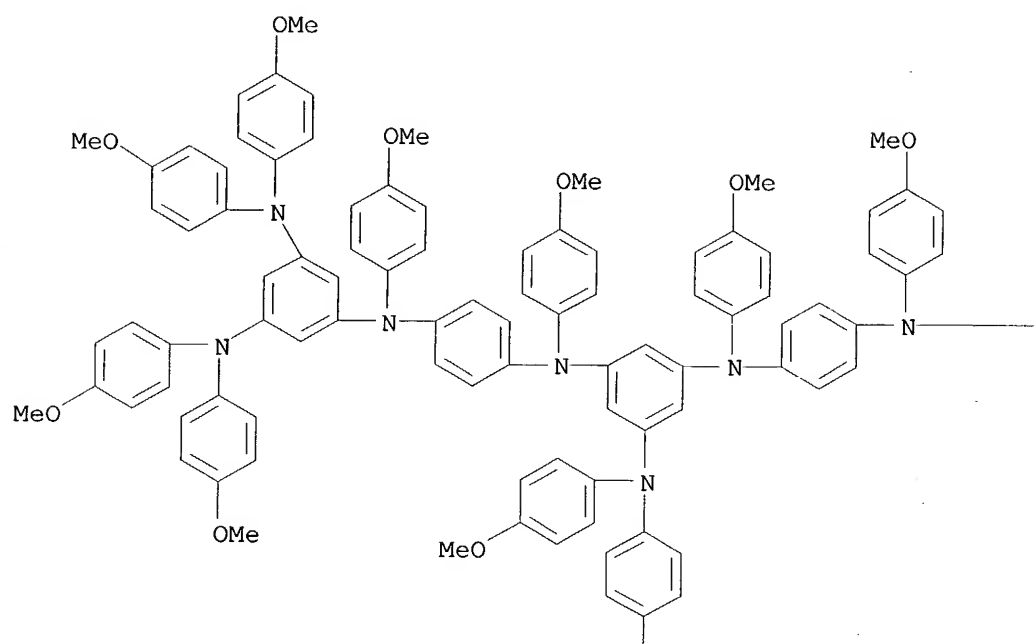
CM 1

CRN 217804-95-0

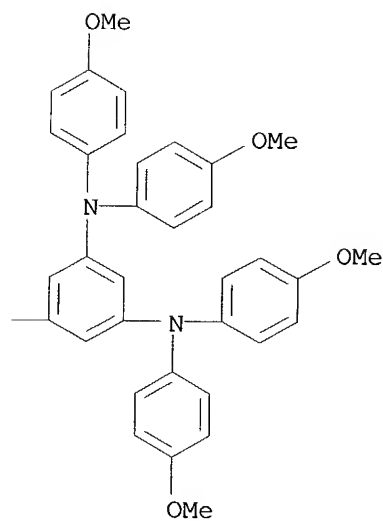
CMF C168 H150 N12 O18

CCI RIS

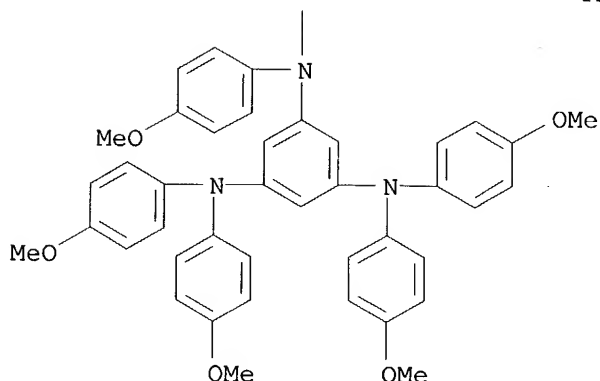
PAGE 1-A



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PAGE 2-A

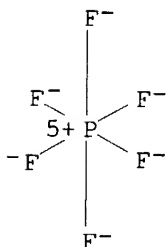


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:564537 HCAPLUS
DN 129:276436
TI The Largest Discrete Oligo(m-aniline). An Exponential Growth Strategy
Using Palladium-Catalyzed Amination of Aryl Sulfonates
AU Louie, Janis; Hartwig, John F.
CS Department of Chemistry, Yale University, New Haven, CT, 06520-8107, USA
SO Macromolecules (1998), 31(19), 6737-6739
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB An exponential growth strategy with palladium-catalyzed amination of aryl
sulfonates was used to generate the largest meta-linked-linear arylamine
oligomers.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST palladium catalyst amination oligoaniline dendrimer
IT Polyamines
Polyamines

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

RL: SPN (Synthetic preparation); PREP (Preparation)
 (dendrimers; exponential growth strategy using palladium-catalyzed
 amination of aryl sulfonates)

IT Amination catalysts
 (exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

IT Dendritic polymers
 Dendritic polymers

RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyamines; exponential growth strategy using palladium-catalyzed
 amination of aryl sulfonates)

IT 13716-12-6, Tri(tert-butyl)phosphine 32005-36-0,
 Bis(benzylideneacetone)palladium

RL: CAT (Catalyst use); USES (Uses)
 (catalyst; in exponential growth strategy using palladium-catalyzed
 amination of aryl sulfonates)

IT 65423-56-5

RL: RCT (Reactant); RACT (Reactant or reagent)
 (exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

IT 213816-31-0P 213816-32-1P 213816-33-2P 213816-34-3P 213816-35-4P
 213816-36-5P 213816-37-6P 213816-38-7P **213816-39-8P**
213816-40-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

IT 213816-41-2P 213816-42-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

IT 17377-95-6, p-Anisidine, N-benzyl-

RL: RCT (Reactant); RACT (Reactant or reagent)
 (in exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

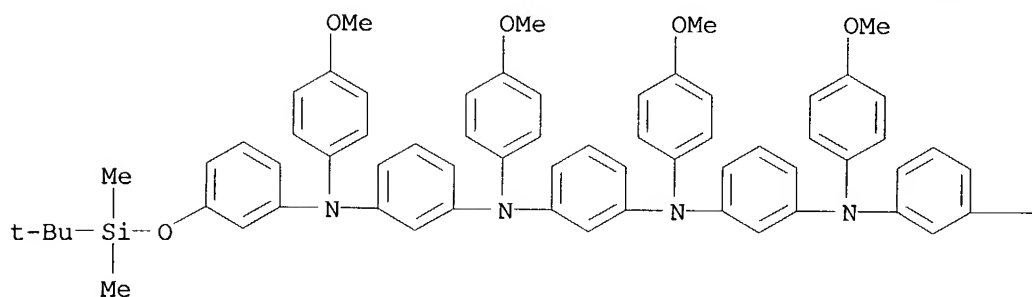
IT **213816-39-8P 213816-40-1P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (exponential growth strategy using palladium-catalyzed amination of
 aryl sulfonates)

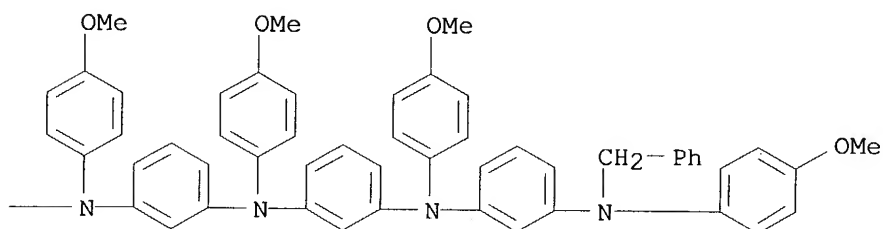
RN 213816-39-8 HCAPLUS

CN 1,3-Benzenediamine, N-[3-[[3-[[3-[[3-[[1,1-dimethylethyl)dimethylsilyl]ox
 y]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl](4-
 methoxyphenyl)amino]phenyl]-N,N'-bis(4-methoxyphenyl)-N'-[3-[(4-
 methoxyphenyl)[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)(phenylmethyl)amin
 o]phenyl]amino]phenyl]amino]phenyl]- (9CI) (CA INDEX NAME)

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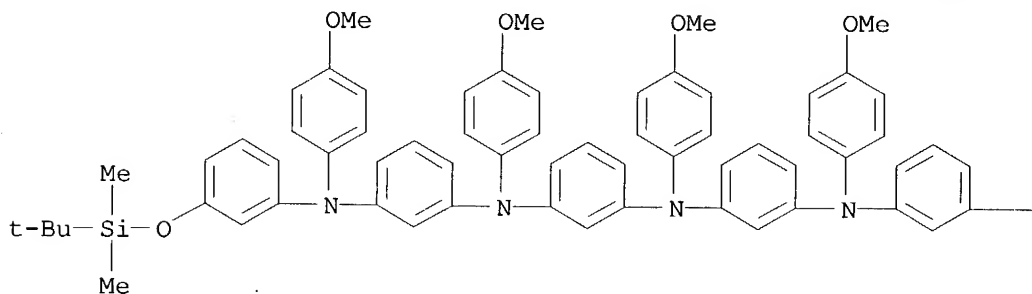
PAGE 1-B



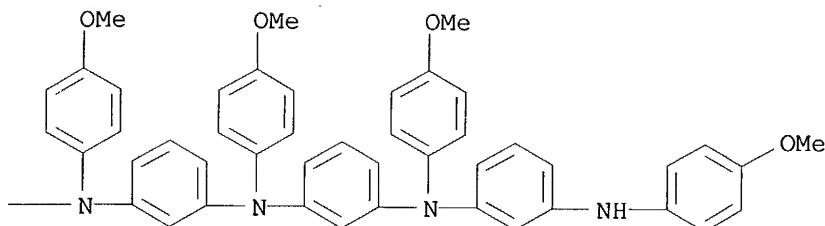
RN 213816-40-1 HCAPLUS

CN 1,3-Benzenediamine, N-[3-[[3-[[3-[[3-[[1,1-dimethylethyl)dimethylsilyl]oxy]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl](4-methoxyphenyl)amino]phenyl]-N,N'-bis(4-methoxyphenyl)-N'-[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)[3-[(4-methoxyphenyl)amino]phenyl]amino]phenyl]amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:488341 HCAPLUS
DN 129:115445
TI Organic electroluminescent device
IN Inoue, Tetsushi; Aotani, Junji; Fujita, Tetsuji; Endo, Hiroyuki
PA TDK Corp., Japan
SO PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9830071	A1	19980709	WO 1997-JP4904	19971226
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 891121	A1	19990113	EP 1997-950436	19971226
	R: DE, FR, GB, NL				
	US 6344283	B1	20020205	US 1998-125791	19980828
	US 2002102434	A1	20020801	US 2002-35161	20020104
	US 6623872	B2	20030923		
	US 2004110030	A1	20040610	US 2003-617688	20030714
PRAI	JP 1996-358416	A	19961228		
	WO 1997-JP4904	W	19971226		
	US 1998-125791	A1	19980828		
	US 2002-35161	A1	20020104		
OS	MARPAT 129:115445				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

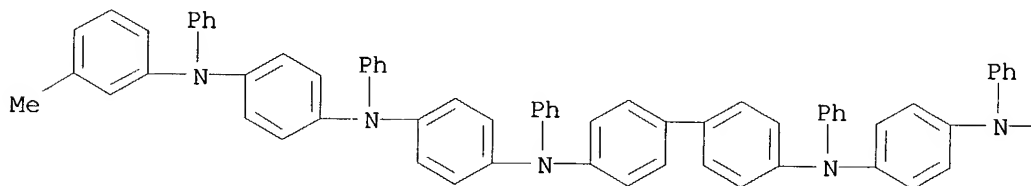
AB An electroluminescent (EL) device comprises organic layers at least one of which comprises a compound having the skeleton represented by I [L = 2-4 phenylene groups, or (un)substituted aminophenyl group may be contained at the center if L0 comprises 4 phenylene rings; R1, R2, R3, and R4 = II, III, and IV; R11, R12, R13, R14, R15, R16, and R17 = (un)substituted aryl groups; and m, n, p, and q = integer 0-5, with (m+n+p+q)≥1].

IC ICM H05B033-22
ICS H05B033-14; C09K011-06

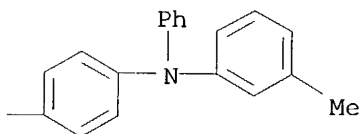
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
 ST org electroluminescent device benzidines
 IT Electroluminescent devices
 (organic; organic electroluminescent elements)
 IT 517-51-1P, Rubren 2085-33-8P, Al 8q 169224-61-7P 203007-32-3P
 209980-47-2P 209980-48-3P **209980-49-4P 209980-50-7P**
209980-51-8P 209980-52-9P 209980-53-0P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (organic electroluminescent elements)
 IT **209980-49-4P 209980-50-7P 209980-51-8P**
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (organic electroluminescent elements)
 RN 209980-49-4 HCAPLUS
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4-[[4-[(3-
 methylphenyl)phenylamino]phenyl]phenylamino]phenyl]-N,N'-diphenyl- (9CI)
 (CA INDEX NAME)

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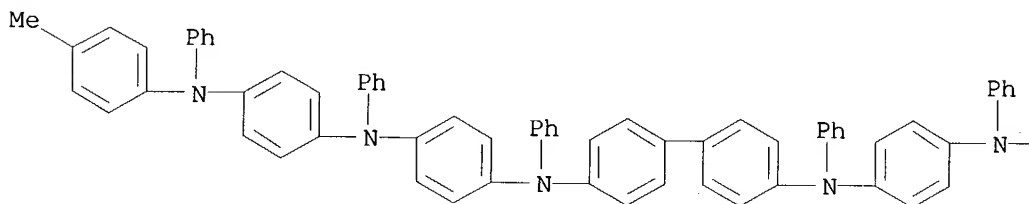


PAGE 1-B

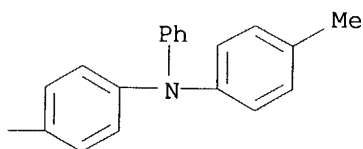


RN 209980-50-7 HCAPLUS
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4-[[4-[(4-
 methylphenyl)phenylamino]phenyl]phenylamino]phenyl]-N,N'-diphenyl- (9CI)
 (CA INDEX NAME)

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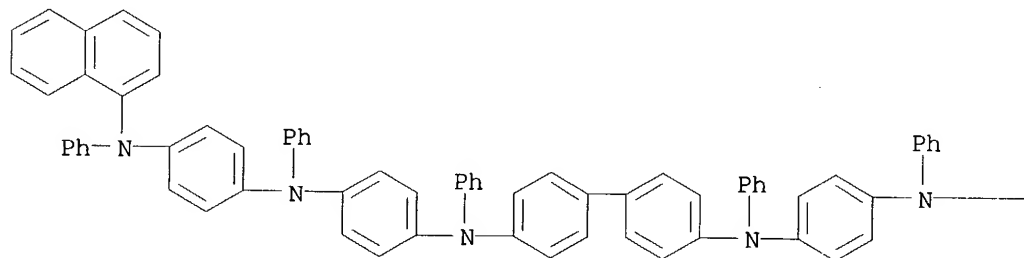


PAGE 1-B

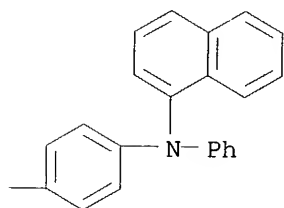


RN 209980-51-8 HCAPLUS
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4-[[4-(1-naphthalenylphenylamino)phenyl]phenylamino]phenyl]-N,N'-diphenyl- (9CI)
 (CA INDEX NAME)

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RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:724011 HCAPLUS
 DN 127:331861
 TI Discrete High Molecular Weight Triarylamine Dendrimers Prepared by
 Palladium-Catalyzed Amination
 AU Louie, Janis; Hartwig, John F.; Fry, Albert J.
 CS Department of Chemistry, Yale University, New Haven, CT, 06520-8107, USA
 SO Journal of the American Chemical Society (1997), 119(48), 11695-11696
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 AB Electronically interesting triarylamine dendrimers previously prepared in
 modest yields were synthesized in high yields. The first generation
 dendrimer 4,4',4''-tris(N,N-diphenylamino)triphenylamine (TDATA) was prepared

- from tris(4-bromophenyl)amine and 3.3 equiv of lithium diphenylamide in the presence of 2 mol % Pd[P(o-tolyl)3]2. The high-yield formation of triarylamines by palladium-catalyzed chemical was used to produce high mol. weight arylamines with high glass transition temps., low redox potentials, and the ability to produce delocalized radical cations.
- CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36
- ST oxidn potential polyamine dendrimer voltammetry; cation radical polyamine dendrimer ESR; palladium catalyzed amination polyamine dendrimer synthesis
- IT Radical ions
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(cations; palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT Polyamines
Polyamines
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(dendrimers; palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT Cyclic voltammetry
ESR (electron spin resonance)
Glass transition
Oxidation potential
(palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT Dendritic polymers
Dendritic polymers
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyamines; palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT 105389-36-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(first generation dendrimer; palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT 92-86-4, 4,4'-Dibromobiphenyl 4316-58-9, Tris(4-bromophenyl)amine
135505-64-5 198026-04-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT 198026-06-1P 198026-10-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT 198026-08-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(palladium-catalyzed amination synthesis of discrete high mol. weight triarylamines dendrimers and their oxidation properties)
- IT 191795-04-7P 198026-09-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and debenzoylation of)
- IT 198026-05-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and lithiation of)
- IT 198026-07-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(second generation dendrimer; palladium-catalyzed amination synthesis

of discrete high mol. weight triarylamine dendrimers and their oxidation properties)

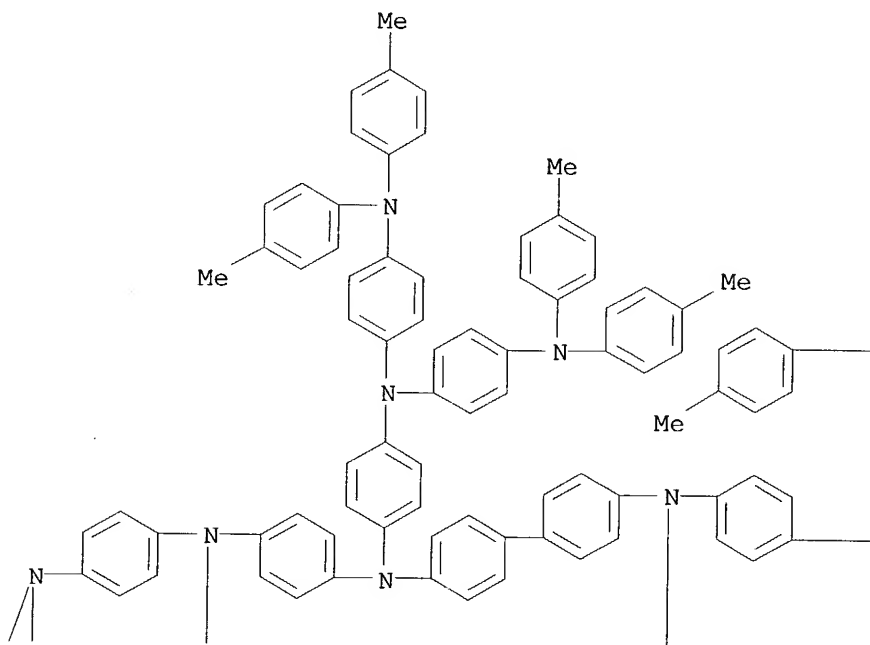
IT 198026-08-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(palladium-catalyzed amination synthesis of discrete high mol. weight triarylamine dendrimers and their oxidation properties)

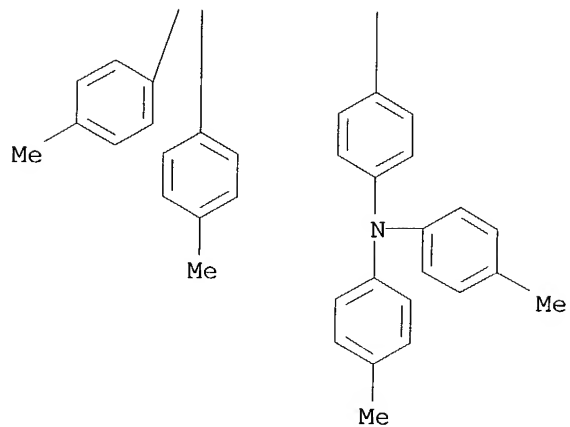
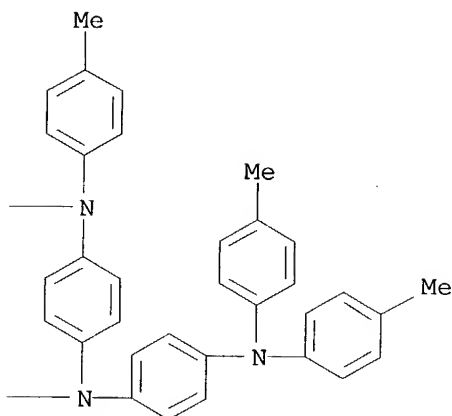
RN 198026-08-3 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N,N',N'-tetrakis[4-[bis[4-[bis(4-methylphenyl)amino]phenyl]amino]phenyl]- (9CI) (CA INDEX NAME)

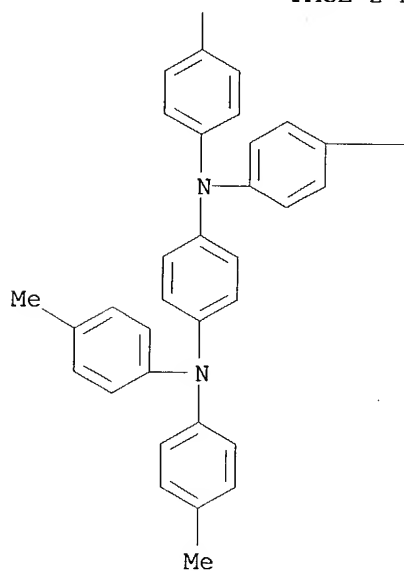
PAGE 1-A



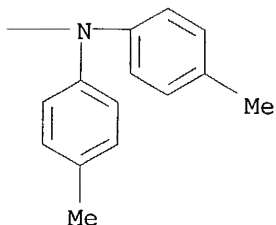
PAGE 1-B



PAGE 2-A



PAGE 2-B



L52 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:344128 HCAPLUS
 DN 126:330374
 TI High-Spin Cation Radicals of Meta-Para Aniline Oligomers
 AU Wienk, M. M.; Janssen, R. A. J.
 CS Laboratory of Organic Chemistry, Eindhoven University of Technology,
 Eindhoven, 5600 MB, Neth.
 SO Journal of the American Chemical Society (1997), 119(19), 4492-4501
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 AB A series of linear and branched high-spin di- and trication radicals has
 been prepared by oxidation of the corresponding meta-para aniline oligomers,
 which are stable under ambient conditions. The formation and properties
 of the cation radicals has been studied in detail by cyclic voltammetry
 and UV-vis-near IR spectroscopy. ESR spectroscopy has provided the
 zero-field splittings, which are consistent with the topol. of the mols.
 and the localization of the unpaired electrons. Variable temperature ESR
 measurements reveal that the signal intensity follows Curie's law,
 consistent with a low-energy high-spin state. The stability of the
 high-spin meta-para aniline oligomers and the possibility to extend these
 systems demonstrate that alternating meta and para aniline oligomers are
 promising building blocks for future polaronic ferromagnets.
 CC 22-10 (Physical Organic Chemistry)
 ST high spin cation radical aniline oligomer; polaronic ferromagnetic
 polymers
 IT Cyclic voltammetry
 ESR (electron spin resonance)
 Triplet state
 UV and visible spectra
 Zero field splitting
 (high-spin cation radicals of meta-para aniline oligomers)
 IT IR spectra
 (near-IR; high-spin cation radicals of meta-para aniline oligomers)
 IT 153521-90-5P 176243-72-4P 186965-99-1P 189388-18-9P
189388-19-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (cyclic voltammetry; high-spin cation radicals of meta-para aniline
 oligomers)
 IT 176484-98-3 184154-68-5 189278-06-6 **189518-21-6**

189581-35-9

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(high-spin cation radicals of meta-para aniline oligomers)

IT 176243-71-3 184377-45-5 **189388-20-3** 189388-21-4

189581-34-8

RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)

(high-spin cation radicals of meta-para aniline oligomers)

IT 189449-98-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(high-spin cation radicals of meta-para aniline oligomers)

IT 101-54-2, N-Phenyl-1,4-benzenediamine 108-73-6, Phloroglucinol

5905-36-2, N,N'-Diphenyl-1,3-benzenediamine 38257-52-2,

p-Iodo-N,N-diphenylaniline 102664-66-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; preparation of meta-para aniline oligomers)

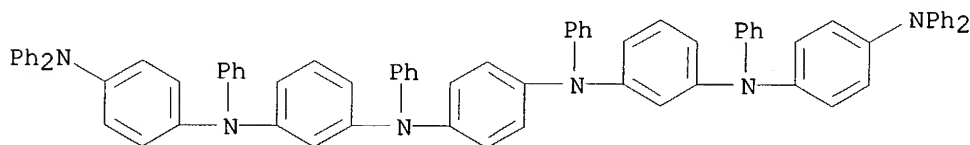
IT **189388-19-0P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(cyclic voltammetry; high-spin cation radicals of meta-para aniline oligomers)

RN 189388-19-0 HCAPLUS

CN 1,3-Benzenediamine, N,N''-1,4-phenylenebis[N'-[4-(diphenylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



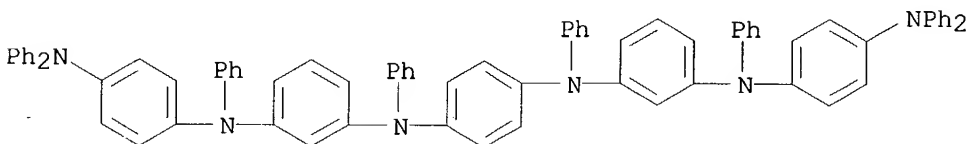
IT **189518-21-6**

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(high-spin cation radicals of meta-para aniline oligomers)

RN 189518-21-6 HCAPLUS

CN 1,3-Benzenediamine, N,N''-1,4-phenylenebis[N'-[4-(diphenylamino)phenyl]-N,N'-diphenyl-, radical ion(3+) (9CI) (CA INDEX NAME)



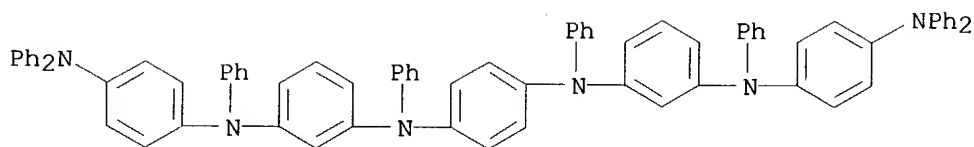
IT **189388-20-3 189581-34-8**

RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)

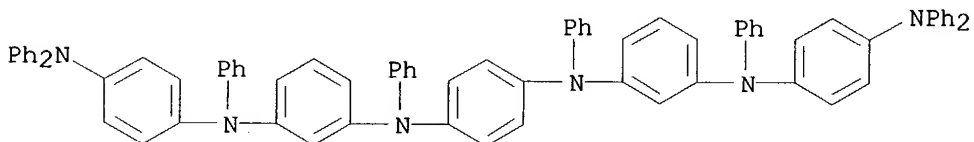
(high-spin cation radicals of meta-para aniline oligomers)

RN 189388-20-3 HCAPLUS

CN 1,3-Benzenediamine, N,N''-1,4-phenylenebis[N'-[4-(diphenylamino)phenyl]-N,N'-diphenyl-, radical ion(1+) (9CI) (CA INDEX NAME)



RN 189581-34-8 HCAPLUS
 CN 1,3-Benzenediamine, N,N''-1,4-phenylenebis[N'-[4-(diphenylamino)phenyl]-N,N'-diphenyl-, radical ion(2+) (9CI) (CA INDEX NAME)



L52 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1964:80199 HCAPLUS

DN 60:80199

OREF 60:14051e-g

TI Electrophotographic product

IN Fox, C. J.

PA Kodak, Soc. Anon.

SO 17 pp.

DT Patent

LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 626527		19630415	BE	
	GB 1012322			GB	
	US 3265496		1966	US	
PRAI	US		19611229		

AB An electrophotog. product comprises a conducting support on which is applied a photoconducting composition containing as the photoconducting substance

the reaction product of a secondary aromatic amine with an aryl halide, especially an aryl mono- or di-halide or a polyhalostyrene. Suitable photoconducting substances are N,N,N',N'-tetraphenylbenzidine, its m- and p-phenylenediamine derivs., compds. of the formula $H[NPhC_6H_4C_6H_4NPhC_6H_4]_nI$ or poly[N-(4-vinylphenyl)diphenylamine] or poly[N-(4-vinylphenyl)- α,α' -dinaphthylamine]. Electrophotog. reproduction may be carried out by charging the product by ionic discharge, photog. exposure to form an image on the charge and developing by an optically dense powder to give a visible image of the original. These photoconducting substances have the advantage that they are of low volatility and give good images when used in photoconducting layers. Their sensitivity may be increased by sensitizers. Thus, N,N,N',N'-tetraphenylbenzidine is prepared by gently refluxing for 8 h., a mixture of 6.72 g. N,N'-diphenylbenzidine, 20.4 g. iodobenzene, 4 g. K_2CO_3 , 0.1 g. powdered Cu, and 200 mL. nitrobenzene. The mixture is filtered and the nitrobenzene steam distilled. The residue is dissolved in PhMe, the solution dried, and the solvent removed. The crude residue, 9 g., is recrystd. in iso-BuOH, m.p. (1st fraction) $220-2^\circ$.

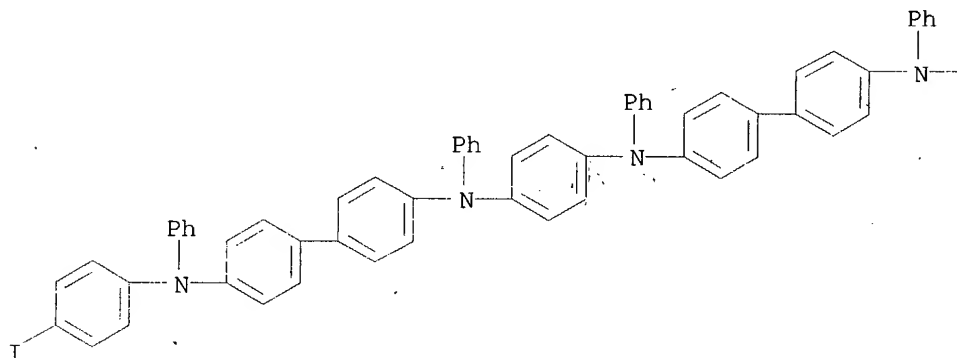
CC 11 (Radiation Chemistry and Photochemistry)

IT Photography

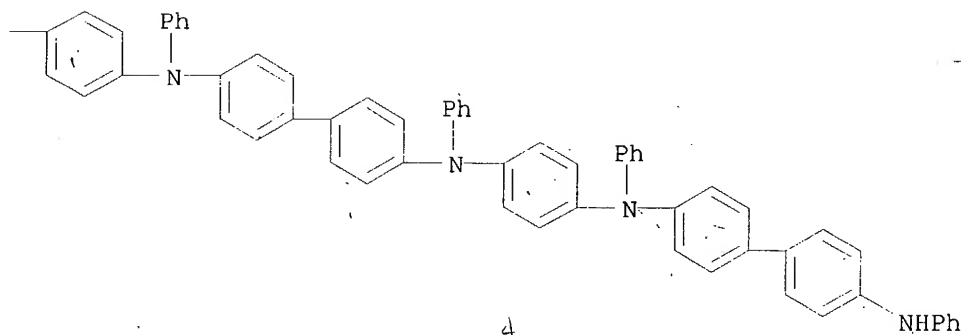
(electro-, light-sensitive reaction products of secondary aromatic amines with aryl halides for)

- IT 14118-16-2, p-Phenylenediamine, N,N,N',N'-tetraphenyl- 15546-43-7, Benzidine, N,N,N',N'-tetraphenyl- 78099-29-3, Triphenylamine, 4-vinyl-, polymer from 92899-33-7, m-Phenylenediamine, N,N,N',N'-tetraphenyl- **107423-13-2**, Benzidine, N'-[p-(N,N'-diphenylbenzidino)phenyl]-N'''-[p-[N'-(p-iodophenyl)-N,N'-diphenylbenzidino]phenyl]-N,N''-p-phenylenebis[N,N'-diphenyl- 251932-79-3, Di-1-naphthylamine, N-(p-vinylphenyl)-, polymer from (for electrophotog.)
- IT **107423-13-2**, Benzidine, N'-[p-(N,N'-diphenylbenzidino)phenyl]-N'''-[p-[N'-(p-iodophenyl)-N,N'-diphenylbenzidino]phenyl]-N,N''-p-phenylenebis[N,N'-diphenyl- (for electrophotog.)
- RN 107423-13-2 HCAPLUS
- CN Benzidine, N'-[p-(N,N'-diphenylbenzidino)phenyl]-N'''-[p-[N'-(p-iodophenyl)-N,N'-diphenylbenzidino]phenyl]-N,N''-p-phenylenebis[N,N'-diphenyl- (7CI) (CA INDEX NAME)

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KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505